FOOD SCIENCE & NUTRITION

2017 CATALOG



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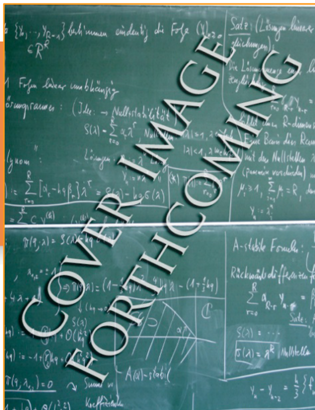
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Sustainable Management of Arthropod Pests of Tomato

Edited by: ***Waqas Wakil*** Department of Entomology, University of Agriculture
Gerald E Brust IPM Vegetable Specialist, University of Maryland, USA
Thomas Dr. Perring

ISBN: 978-0-12-802441-6

PUB DATE: June 2017

FORMAT: Paperback

PAGES: c. 418

TRIM: 6w x 9h

AUDIENCE

Professionals, researchers and students in agriculture, integrated pest management, and entomology as well as extension specialists and related roles globally who guide others in appropriate implementation and use of pesticides

Addresses the issues associated with over-application of pesticides and provides an overview of the biology and management of tomato arthropod pests

KEY FEATURES

- Provides basic biological and management information for arthropod pests of tomato from a global perspective, encompassing all production types (field, protected, organic)
- Includes chapters on integrated management of tomato pests and specific aspects of tomato pest management including within protected structures and in organic production
- Presents management systems that have been tested in the real-world by the authors of each chapter and could be integrated into global tomato pest management programs
- Fully illustrated throughout with line drawings and color plates that illustrate key pest and beneficial arthropods associated with tomato production around the world, as well as images of pest damage and symptoms of insect vectored diseases

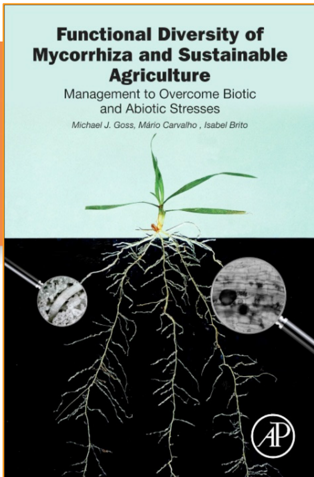
DESCRIPTION

Because of the high value of a tomato crop, growers have a tendency to over-apply pesticides to ensure their yield and profit. Such practices may actually cut grower profit due to the cost of unnecessary pesticides, and have a negative impact on the environment. *Sustainable Management of Arthropod Pests of Tomato* addresses that issue and provides insight into the proper, appropriate application of pesticides and integration of alternative pest management methods.

The aim of IPM is to reduce pest populations to avoid damaging levels that cause yield or quality loss. The basis of good crop management decisions is a better understanding of the crop ecosystem, including the pests, their natural enemies, and the crop itself. This book provides a global overview of the biology and management of key arthropod pests of tomato, including arthropod-vectored diseases. It includes information that places tomato in terms of global food production and food security and includes in each pest chapter the predators and parasitoids that specifically have been found to have the greatest impact on reducing that particular pest. In-depth coverage of the development of resistance in tomato plants and the biotic and abiotic elicitors of resistance and detailed information about the sustainable management of tomato pests is also presented.

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Functional Diversity of Mycorrhiza and Sustainable Agriculture

Management to Overcome Biotic and Abiotic Stresses

Michael J. Goss School of Environmental Sciences, University of Guelph, Guelph, Ontario, Canada
Mário Carvalho Institute of Mediterranean Agriculture and Environmental Sciences, University of Évora, Évora, Portugal
Isabel Brito Institute of Mediterranean Agriculture and Environmental Sciences, University of Évora, Évora, Portugal

ISBN: 978-0-12-804244-1
PUB DATE: June 2017
FORMAT: Paperback
PAGES: c. 200
TRIM: 6w x 9h

AUDIENCE

Land managers, consultants, policy makers and university students in agriculture, soil and environmental science, botany or horticulture looking to develop and foster sustainable plant production. Students can gain an understanding of the science underpinning the growth and development of indigenous mycorrhizas and biodiversity

Explores the challenges and opportunities of using AMF in agricultural productivity, also detailing application based results

KEY FEATURES

- Provides a new approach to exploiting the benefits of mycorrhizas for sustainable arable agricultural production using indigenous AMF populations and adopting appropriate crop production techniques
- Bridges the gap between soil microbiology, including increasing knowledge of mycorrhiza and agronomy
- Presents real-world practical insights and application-based results, including a chapter focused primarily on case studies
- Includes extensive illustrative diagrams and photographs

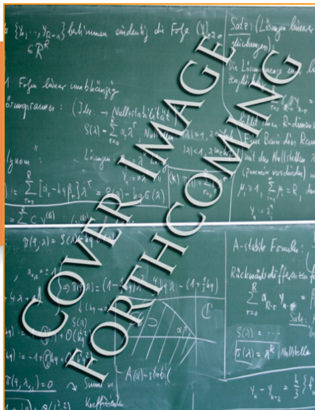
DESCRIPTION

Functional Diversity of Mycorrhiza and Sustainable Agriculture is the first book to present the core concepts of working with Arbuscular mycorrhizal fungi to improve agricultural crop productivity.

Highlighting the use of indigenous AM fungi for agriculture, the book includes details on how to maintain and promote AM fungal diversity to improve sustainability and cost-effectiveness. As the need to improve production while restricting scarce inputs and preventing environmental impacts increases, the use of AMF offers an important option for exploiting the soil microbial population. It can enhance nutrient cycling and minimize the impacts of biotic and abiotic stresses, such as soil-borne disease, drought, and metal toxicity.

The book offers land managers, policymakers, soil scientists, and agronomists a novel approach to utilizing soil microbiology in improving agricultural practices.

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The Future Rice Strategy for India

Samrendu Mohanthy
P. G. Chengappa
Mruthunjaya
Elumalai Kannan
A. V. Manjunatha
Sampriti Baruah

ISBN: 978-0-12-805374-4
PUB DATE: June 2017
FORMAT: Paperback
PAGES: c. 444
TRIM: 6w x 9h

AUDIENCE

Policy makers, researchers, extension personnel, civil society and the private sector such as rice producers, rice millers, traders, exporters and transporters, students in Universities and research organizations, professional associations and trade organizations such as rice millers associations and rice exporters association spread across the states in India

A joint initiative of the Institute for Social and Economic Change (ISEC), Bangalore and the International Rice Research Institute (IRRI), Los Ban?s covering a wide range of issues affecting growth and development of the rice sector in India

KEY FEATURES

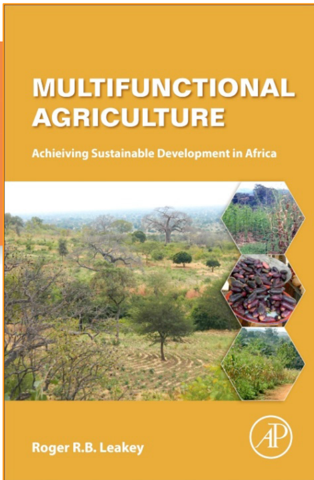
- Uses analysis based on agro ecological zones (AEZ) patterns across all chapters providing understanding of future growth pattern based on rice ecologies
- Includes case studies and proposed solutions taking into consideration pros and cons of each, allowing readers facing similar concerns and issues to identify an appropriate solution more efficiently and effectively
- Uses a time frame of 20 years for all data analysis and reference providing a base for making strategic decisions under certainty

DESCRIPTION

The Future Rice Strategy for India presents forward-looking insights on key strategies that India can pursue to achieve sustainable development of the rice sector, including future food and nutritional security. Using case studies to illustrate potential issues, challenges and solutions, the book presents key strategic options while considering the implicit consequences. In addition, the key findings and enrich the strategy and policy formulation deliberations for the role of rice in the country.

This multidisciplinary approach features the expertise of rice scientists covering different aspects of rice sector; from breeding to consumer preferences and markets and trade.

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Multifunctional Agriculture

Achieving Sustainable Development in Africa

Roger Leakey Vice Chairman, International Tree Foundation, UK

ISBN: 978-0-12-805356-0

PUB DATE: March 2017

FORMAT: Hardback

PAGES: c. 642

TRIM: 6w x 9h

AUDIENCE

Academics and students in botany, agriculture, horticulture, forestry, genetics, soil science, ecology, social and environmental studies, as well as food technology – and of course agroforestry, Agribusiness, International aid agencies and donors, Civil society organizations and lobbyists, Wildlife and natural resource conservationists

Explores the potential benefits of agroforestry in the economic and resource sustainability of agriculture and its future potential

KEY FEATURES

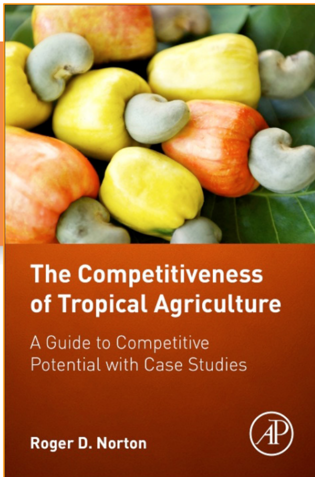
- Provides a single-source, comprehensive insight into agroforestry/ multifunctional agriculture, it's potential, challenges, and progress
- Helps readers understand and assess potential opportunity through implementation
- Includes case studies and real-world insights that address common situations and the practical application of best practices
- Explores the role of multi-functional agriculture in mitigating climate change impacts, providing value-story beyond crop production

DESCRIPTION

Multifunctional Agriculture: Achieving Sustainable Development in Africa is an innovative compilation of papers from agroforestry expert and subject thought-leader Roger Leakey that explores agroforestry through its progression over the past 20 years, also looking forward to where the science offers future potential.

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The Competitiveness of Tropical Agriculture

A Guide to Competitive Potential with Case Studies

Roger D. Norton Research Professor of Agricultural Economics and Regional Director for Latin America and the Caribbean, Borlaug Institute for International Agriculture, Texas A&M University, TX, USA

ISBN: 978-0-12-805312-6

PUB DATE: January 2017

FORMAT: Paperback

PAGES: c. 332

TRIM: 6w x 9h

AUDIENCE

Teachers and researchers; Faculty and students in agricultural economics, agribusiness, horticulture and related academic fields; professionals in national and international agricultural research institutions; professionals in international and bilateral development agencies

A sophisticated set of tools agricultural researchers can use to support better analysis and policymaking for roughly one half of the world's population

KEY FEATURES

- Presents evaluations of 105 agricultural products, including crops, livestock outputs, aquaculture products, and forestry products
- Explores insights not found in other competitiveness studies, including spatial variation within a country for the same crop, relation to the use of skilled labor, and above all, the role of value chain issues in determining competitiveness
- Includes analysis of results, such as assessing sector-wide effects on employment and income of policies that help align the sector with its competitive advantage

DESCRIPTION

The Competitiveness of Tropical Agriculture: A Guide to Competitive Potential with Case Studies describes and synthesizes existing methodologies for evaluating competitiveness in agriculture, introduces extensions and refinements, and provides a novel approach based on a combination of quantitative and qualitative methodologies.

As exports of tropical fruit, nuts, and other high-value crops have been growing very rapidly from developing countries, but often encounter serious obstacles in their value chains, this book demonstrates how national agricultural policy is oftentimes not guided by considerations of inherent competitiveness.

In addition, the book presents case studies that illustrate the application of these approaches using quantitative frameworks. A concluding chapter introduces policy considerations for competitiveness from work in Jordan, Colombia, Estonia, Peru, and elsewhere, also discussing the role of specific policies in raising competitiveness sustainably and its role in reducing rural poverty.

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Olive Mill Waste

Recent Advances for Sustainable Management

Charis Michael Galanakis Galanakis Laboratories, Chania, Greece

ISBN: 978-0-12-805314-0

PUB DATE: January 2017

FORMAT: Paperback

PAGES: c. 314

TRIM: 7.5w x 9.25h

AUDIENCE

Agricultural producers, researchers, chemical engineers and processors seeking environmentally responsible methods for reducing and reusing waste created during harvest and processing

Addressing agricultural and industrial challenges for sustainable production

KEY FEATURES

- Covers the most recent advances in the field of olive mill waste management following the sustainability principles
- Fills the gap of transfer knowledge between academia and industry, by describing in details the few viable industrial applications and scenarios
- Explores the advantages, disadvantages and real potentiality of processes and products in the market

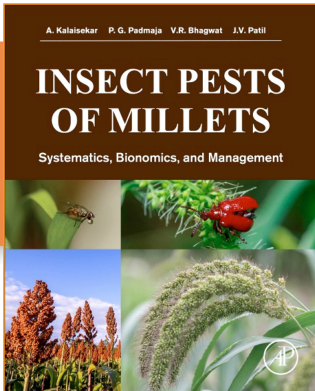
DESCRIPTION

Olive Mill Waste addresses the most relevant topics of olive oil industry sustainable management today. Emphasizing recent advisable practices, the potentiality of reutilizing OMW to power the mill itself, the reuse of OMW as soil amendment, aerobic biological treatment of OMW and compost production, the case study of OMW within the biorefinery concept, the recovery of bioactive compounds from OMW as well as their applications in food products and cosmetics.

Recent research efforts have concluded that the successful management of OMW focuses on three main routes: (a) reuse of water, (b) reuse of polyphenols and (c) reuse of nutrients. Following this consideration, Olive Mill Waste covers sustainable practices of olive oil industry reveals the opportunities of reutilizing the water of OMW within the process or as soil amendment. At the same time, it explores in depth all the possibilities of recovering polyphenols and reutilizing them in target products such as foods and cosmetics. In addition, the book presents successful cases of industrial OMW valorization through real world experiences.

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Insect Pests of Millets

Systematics, Bionomics, and Management

A. Kalaisekar ICAR- Indian Institute of Millets Research, Hyderabad, India
P. G. Padmaja Agricultural Entomology at the ICAR- Indian Institute of Millets Research, Hyderabad, India
J. V. Bhagwat ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad, India
J.V. Patil ICAR-Indian Institute of Millets Research (ICAR-IIMR), Rajendranagar, Hyderabad (Telangana), India

ISBN: 978-0-12-804243-4
PUB DATE: January 2017
FORMAT: Paperback
PAGES: c. 192
TRIM: 7.5w x 9.25h

AUDIENCE

Researchers, Teachers and Students in the disciplines of Agricultural Entomology, Plant protection, Resistance Plant Breeding and Biotechnological pest management

Through a discussion of plant-insect relationships, this book focuses on how to protect the cultivated cereals that many worldwide populations depend on for food

KEY FEATURES

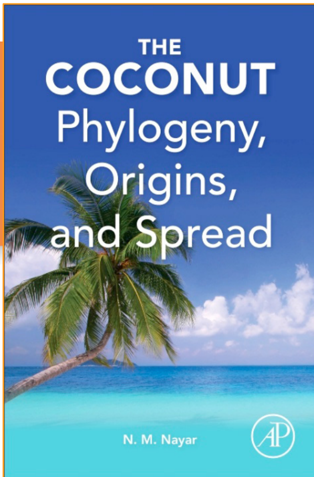
- Includes the most comprehensive and relevant aspects of insect systematics, including synonyms, nomenclatural history, and identification characters to quickly guide readers to desired information
- Addresses aspects of insect-plant relationships, including host signaling and orientation, host specialization, pest – host evolutionary relationship, and biogeography of insects and host plant
- Presents the latest research findings related to the ecological, behavioral, and physiological aspects of millet pests

DESCRIPTION

Insect Pests of Millets: Systematics, Bionomics, and Management focuses on protecting the cultivated cereals that many worldwide populations depend on for food across the semi-arid tropics of the world. Providing coverage of all the major cultivated millets, including sorghum, pearlmillet, finger millet, barnyard millet, prosomillet, little millet, kodomillet, and foxtail millet, this comprehensive book on insect pests is the first of its kind that explores systematics, bionomics, distribution, damage, host range, biology, monitoring techniques, and management options, all accompanied by useful illustrations and color plates.

By exploring the novel aspects of Insect-plant relationships, including host signaling orientation, host specialization, pest – host evolutionary relationship, and biogeography of insects and host plants, the book presents the latest ecologically sound and innovative techniques in insect pest management from a general overview of pest management to new biotechnological interventions.

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The Coconut

Phylogeny,Origins, and Spread

N Madhavan Nayar Emeritus Scientist, Tropical Botanic Garden and Research Institute, Trivandrum, Kerala, India

ISBN: 978-0-12-809778-6

PUB DATE: January 2017

FORMAT: Paperback

PAGES: c. 222

TRIM: 6w x 9h

AUDIENCE

Advanced graduate students and researchers in biology and agriculture; also, technical and development officials, extension staff, and policy planners

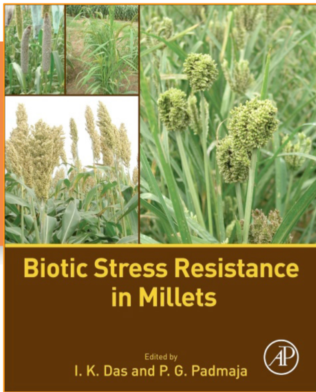
Comprehensively covers the botany, phylogeny, origins, and spread of the coconut tree and its primary usage as a globally important crop

KEY FEATURES

- Presents the phylogeny, origins, and spread of the coconut
- Explores the broad-based use of coconut from basic food source to nutraceuticals
- Provides ethnobotanical information on cultivation and use of this tropical crop

DESCRIPTION

The Coconut: Phylogeny, Origins, and Spread comprehensively covers the botany, phylogeny, origins, and spread of the coconut palm. The coconut is used primarily for its oil, fiber, and as an article of food, including its tender-nut water. Until the 1950s, coconut oil used to rank first in the world in production and international trade among all the vegetable oils. Since then, lower-cost sources such as the African oil palm, soybean, canola, and others have overtaken the coconut in oil production and trade. The coconut, *Cocos nucifera L.* (Arecaceae), is a dominant part of the littoral vegetation across the tropics. In addition to discussing the origins of the coconut and its use as a crop, the book covers the resurgence in the use of the coconut in food, pharmaceuticals, and nutraceuticals.



Biotic Stress Resistance in Millets

Edited by: ***I. K. Das*** Department of Plant Pathology, Indian Institute of Millets Research, Hyderabad, India
P. G. Padmaja Agricultural Entomology at the ICAR- Indian Institute of Millets Research, Hyderabad, India

ISBN: 978-0-12-804549-7

PUB DATE: August 2016

FORMAT: Paperback

PAGES: c. 234

TRIM: 7.5w x 9.25h

AUDIENCE

Researchers, Teachers and Students in the disciplines of Agricultural Entomology, Plant protection, Resistance Plant Breeding and Biotechnological pest management would be interested in the contents of the book

This comprehensive book on stress resistance in millets identifies and addresses environmental stress factors, presenting new strategies for this important food crop

KEY FEATURES

- Establishes basic concepts of host resistance providing foundational insight
- Synthesizes past biotic stress resistance research with the latest findings to orient research for future strategies for plant protection
- Focuses exclusively on host plant resistance on all major diseases and pests of millets
- Presents data and strategies that are globally applicable as millets gain importance as a health food

DESCRIPTION

Biotic Stress Resistance in Millets presents an important guide to the disease and pest-related challenges of this vital food crop. Biotic stresses are one of the major constraints for millet production, but newly emerging and forward-thinking problems with disease and insect pests are likely to increase as a result of changing weather, making this an imperative book on best practices.

Current strategies are mainly through the development of resistant cultivars, as the use of chemicals is cost-prohibitive to many of those producing millet in developing countries where it is of most value as a food source. This book explores non-chemical focused options for improving plant resistance and protecting crop yield.

This single-volume reference will be important for researchers, teachers and students in the disciplines of Agricultural Entomology, Plant protection, Resistance Plant Breeding and Biotechnological pest management.

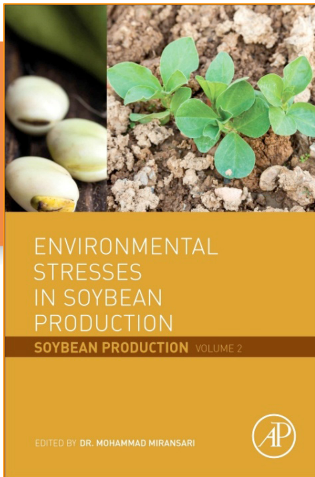
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Environmental Stresses in Soybean Production

Soybean Production Volume 2

Edited by: ***Mohammad Miransari*** AbtinBerkeh Ltd. Co., Tehran, Iran



ISBN: 978-0-12-801535-3

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 304

TRIM: 6w x 9h

AUDIENCE

Researchers, academicians and scientists in plant biology, plant physiology, plant molecular biology, crop production, plant-microbe interactions, microbiology, biotechnology, environment, etc. It is also of special significance to the industry sector, as the production and processing of soybean grains for food and oil production is an important process. Advanced level students in these areas.

A thorough examination of the impact of environmental stress on soybean crop yield, this insightful guide identifies core issues and methods to address worldwide concerns about how to ensure sustainable crop production in light of climate and soil quality changes

KEY FEATURES

- Presents insights for addressing specific environmental stress conditions in soybean production, including soil, atmospheric, and other contributing factors
- Facilitates translational methods based on stress factors from around the world
- Examines the future of soybean production challenges, including those posed by climate change
- Complements volume one, *Abiotic and Biotic Stresses in Soybean Production*, providing further insights into crop protection

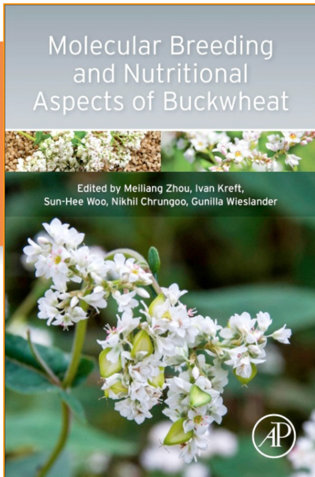
DESCRIPTION

Environmental Stress Conditions in Soybean Production: Soybean Production, Volume Two, examines the impact of conditions on final crop yield and identifies core issues and methods to address concerns. As climate and soil quality changes and issues continue to manifest around the world, methods of ensuring sustainable crop production is imperative. The care and treatment of the soil nutrients, how water availability and temperature interact with both soil and plant, and what new means of crop protection are being developed make this an important resource for those focusing on this versatile crop. The book is a complement to volume one, *Abiotic and Biotic Stresses in Soybean Production*, providing further insights into crop protection.

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Molecular Breeding and Nutritional Aspects of Buckwheat

Meiliang Zhou Biotechnology Research Institute, Chinese Academy of Agricultural Sciences (CAAS), Beijing, China
Ivan Kreft University of Ljubljana/Slovenian Forestry Institute, Slovenia
Sun-Hee Woo Laboratory of Plant Breeding & Functional Proteomics, Department of Crop Science,College of Agriculture, Life & Environment Science Chungbuk National University, Cheongju, Korea.
Nikhil Chrungoo North Eastern Hill University, India
Gunilla Wieslander Uppsala University, Sweden

ISBN: 978-0-12-803692-1
PUB DATE: June 2016
FORMAT: Paperback
PAGES: c. 460
TRIM: 6w x 9h

AUDIENCE
Bachelor, master, PhD students of Agronomy or Plant Biology and buckwheat researchers seeking a comprehensive overview of present knowledge about the molecular breeding and food nutrition of Buckwheat.

Through a comprehensive approach to the general characterization and genetic diversity of buckwheat in regions around the globe, this book demonstrates how the protein and bioactive compounds of buckwheat show high biological value for human health, making it an important crop not only dietary but, as a way to address global food security issues

KEY FEATURES

- Addresses all aspects of buckwheat research, including genetic resources, biological nutrition, genetic transformation, and molecular breeding
- Presents global characterization on the genetic resource of Fagopyrum, giving researchers insights that will help them breed new cultivars
- Explores the bioactivity of buckwheat
- Includes detailed information on the environmental factors that affect the growth and production of buckwheat

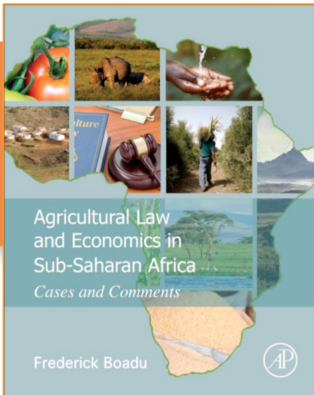
DESCRIPTION

Molecular Breeding and Nutritional Aspects of Buckwheat describes the general characterization and genetic diversity of buckwheat (family Polygonaceae, genus Fagopyrum) around the globe (especially in Russia, China, India, and Eastern Europe), the arid and cool regions where it is most frequently consumed, and nutritional information on a variety of buckwheat uses, including tea, groats, flour, and noodles.

With detailed information on buckwheat regeneration, genetic transformation, gene function analysis, and the metabolic engineering of bioactive compounds, the book guides readers through a variety of buckwheat varietal adaptations, providing foundation information on which additional research should be conducted.

It is divided into four parts, including genetic resource and phylogenetic relationship, food nutrition, growth and cultivation, and molecular breeding, with each section providing insights into the most current developments.

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Agricultural Law and Economics in Sub-Saharan Africa

Cases and Comments

Frederick Owusu Boadu Department of Agricultural Economics, Texas A&M University, College Station, TX, USA

ISBN: 978-0-12-801771-5
PUB DATE: May 2016
FORMAT: Hardback
PAGES: c. 604
TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, students and researchers in traditional economics, Agricultural economics, law school, interdisciplinary social science courses, or at an international organization research center. Agricultural law researchers will find the extensive reference sources useful for international comparative law research and analysis.

Introducing agricultural law and economics in Sub-Saharan Africa common law countries this authoritative guide covers such traditional law topics as contracts, torts, and property, as well as cutting-edge, region-relevant topics such as contracts with illiterate parties, contract farming, climate change, and transboundary water issues

KEY FEATURES

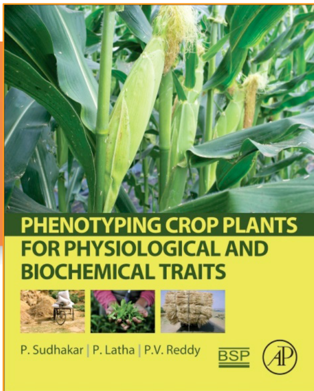
- Offers research findings on such topics as food safety, climate change, transboundary natural resources, international sale of goods, patents, and trademarks to highlight the future sources of pressure on the agriculture industry
- Uses case-studies to provide real-world insights into the challenges and considerations of appropriate agricultural law development
- Challenges readers to carry out their own research in their areas of study, and to gain some understanding of the relationship between law, economics, and statistics
- Includes extensive resources, such as chapter summaries, study questions, and challenge questions at the end of each chapter to assist instructors and students in gaining full benefits from using the book
- Provides separate instructor and student study guides, a test bank, and test bank answers, in hardcopy and electronic formats

DESCRIPTION

Agricultural Law in Sub-Saharan Africa: Cases and Comments introduces the subject of agricultural law and economics to researchers, practitioners, and students in common law countries in Sub-Saharan Africa, and presents information from the legal system in Botswana, Gambia, Ghana, Lesotho, Malawi, Nigeria, Sierra Leone, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. The law and economics approach entails the use of quantitative methods in research. This is consistent with the expectations in an applied economics field such as agricultural economics.

Covering the general traditional law topics in contracts, torts, and property, the book goes further to introduce cutting-edge and region-relevant topics, including contracts with illiterate parties, contract farming, climate change, and transboundary water issues. The book is supported by an extensive list of reference materials, as well as study and enrichment exercises, to deepen readers' understanding of the principles discussed in the book. It is a learning tool, first and foremost, and can be used as a stand-alone resource to teach the subject matter of agricultural law and economics to professionals new to the subject area as well as to students in law school, agricultural economics, economics, and inter-disciplinary classes.

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Phenotyping Crop Plants for Physiological and Biochemical Traits

P. Sudhakar Senior Scientist & Head Crop Physiology, Institute of Frontier Technology Regional Agricultural Research Station, Acharya N.G. Ranga Agriculture University, Tirupati, AP
P. Latha Scientist (Crop Physiology), Institute of Frontier Technology Regional Agricultural Research Station, Acharya N.G. Ranga Agriculture University, Tirupati, AP
PV Reddy Associate Director of Research (Rtd.), Regional Agricultural Research Station, Acharya N.G. Ranga Agriculture University, Tirupati, AP

ISBN: 978-0-12-804073-7
PUB DATE: April 2016
FORMAT: Paperback
PAGES: c. 172
TRIM: 7.5w x 9.25h

AUDIENCE

Researchers and students of Agriculture, Horticulture, sericulture and Forestry sciences, as well as conventional and molecular biologists involved in crop research

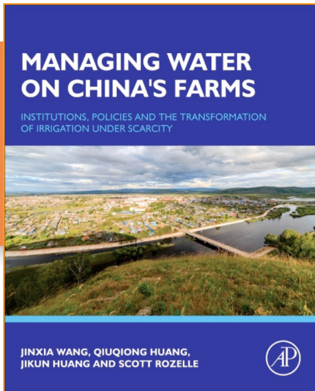
This informative reference examines a proven range of methodologies and practices for the effective, efficient, and appropriate typing of crop plants covering the basic principles and precautions needed when conducting crop-based experiments and offering guidance on selecting the appropriate method for various growing environments

KEY FEATURES

- Discusses various methods that can contribute to phenotyping of crop plants for various physiological and biochemical traits
- Presents reliable techniques for phenotyping or quantifying plant characters during varied climatic conditions
- Provides insights for selecting appropriate methodologies for specific crop growing situations
- Identifies the most appropriate protocols and methods for analyzing crop traits

DESCRIPTION

Phenotyping Crop Plants for Physiological and Biochemical Traits presents a proven range of methodologies and practices for effective, efficient, and appropriate typing of crop plants. By addressing the basic principles and precautions needed when conducting crop-based experiments, this book guides the reader in selecting the appropriate method based on the growing environment, whether greenhouse, pot, field, or liquid (hydroponic). By addressing the quantification of seed traits related to growth experiments, including their viability and vigor, this book presents methodology options for optimum yield based on potential abiotic stresses.



Managing Water on China's Farms

Institutions, Policies and the Transformation of Irrigation under Scarcity

Jinxia Wang Center for Chinese Agricultural Policy, Chinese Academy of Sciences, China
Qiuqiong Huang University of Arkansas, Fayetteville, USA
Jikun Huang Founder, Director and Professor, Center for Chinese Agricultural Policy, Chinese Academy of Sciences, and Professor, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Science
Scott Rozelle Senior Fellow and co-director, Rural Education Action Program, Freeman Spogli Institute for International Studies, Stanford University, USA

This comprehensive book examines water availability issues in China, including a survey of potential solutions that provide a rich analysis of firsthand data that is helpful to graduate students in resource economics, as well as researchers and policymakers with an interest in China's water shortage challenges

ISBN: 978-0-12-805164-1

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 328

TRIM: 7.5w x 9.25h

AUDIENCE

Agricultural scientists and those involved in policy development facing water resource scarcity and developing efficient methods of using available resources

KEY FEATURES

- Uses case studies including problem, factors, proposed solutions, and pros and cons of each to facilitate translational learning and application
- Uses analyses of firsthand data collected from sources of irrigation water, irrigation systems, and water users
- Covers governance and operation and maintenance (O and M) practices
- Provides an informative, quantitative, and rigorous analysis of survey results
- Provides practical and valuable data, including the detailed micro-level data that enables estimating strategies

DESCRIPTION

Managing Water on China's Farms: Institutions, Policies and the Transformation of Irrigation under Scarcity is a comprehensive and current look at the water shortage problems in China. While China has emerged as a major player in the world economy, water is the most critical factor that limits the country's further growth. China's growing water problems also have a large impact worldwide, with public health as well as economic impacts. If China were to rely heavily on food produced outside of China, the massive volume of food imports would raise food prices internationally. This book examines a series of water issues, beginning with a description of the water shortage problems in China, particularly in the northern part of the country. It then looks at the government and farmers' responses and whether past policies have been effective in resolving the water problems.

Managing Water on China's Farms documents the change of existing and new water management institutional forms over time and across provinces throughout northern China, and then assesses the impacts of these changes in the rural sector. Finally, it examines potential solutions that the research has uncovered, answering the question: Who can build the bridge over China's troubled waters? Using analyses from information collected firsthand in China's rural villages, the series of surveys covers diverse geographic regions that are representative of north China and includes perspectives from multiple stakeholders such as village leaders, water managers, and farmers. The policy-oriented research and rich analysis in this book make it of interest to both policy makers and researchers with a focus on China water problems. This book can also be used in a Master or Ph.D. level resource economics course.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Ecofriendly Pest Management for Food Security

Omkar Department of Zoology, University of Lucknow, Lucknow, India

Focuses on the insect resistance that has developed as a result of pest control chemicals, and how new methods of environmentally complementary pest control can be used to suppress harmful organisms while protecting the soil, plants, and air around them

ISBN: 978-0-12-803265-7

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 750

TRIM: 7.5w x 9.25h

AUDIENCE

Graduate students of Zoology, Agriculture and other disciplines of Biological Sciences; researchers and policy makers in agriculture, food safety, and sustainability

KEY FEATURES

- Addresses environmentally focused pest control with specific attention to its role in food security and sustainability.
- Includes a range of pest management methods, from natural enemies to biomolecules.
- Written by experts with extensive real-world experience.

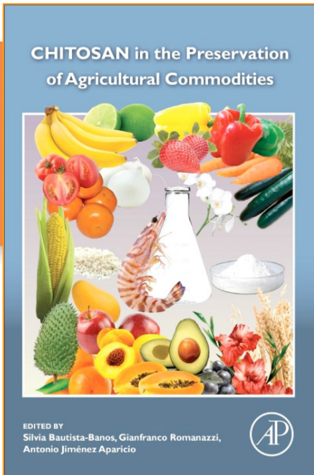
DESCRIPTION

Ecofriendly Pest Management for Food Security explores the broad range of opportunity and challenges afforded by Integrated Pest Management systems. The book focuses on the insect resistance that has developed as a result of pest control chemicals, and how new methods of environmentally complementary pest control can be used to suppress harmful organisms while protecting the soil, plants, and air around them.

As the world's population continues its rapid increase, this book addresses the production of cereals, vegetables, fruits, and other foods and their subsequent demand increase. Traditional means of food crop production face proven limitations and increasing research is turning to alternative means of crop growth and protection.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Chitosan in the Preservation of Agricultural Commodities

Edited by: ***Silvia Bautista-Banos*** Lecturer and Research Scientist, Postharvest Plant Pathology and Physiology, Centre of Biotic Products, National Polytechnic Institute, Mexico
Gianfranco Romanazzi Professor of Plant Pathology and Plant Disease Management, Marche Polytechnic University, Ancona, Italy
Antoinio Jiménez-Aparicio Lecturer and Research Scientist, Food Science and Technology, Centre of Biotic Products, National Polytechnic Institute, Mexico

ISBN: 978-0-12-802735-6

PUB DATE: January 2016

FORMAT: Paperback

PAGES: c. 366

TRIM: 6w x 9h

AUDIENCE

Researchers, academics and students in Agricultural sciences. Those involved in sustainable and organic agriculture and food conservation.

Through a comprehensive approach to the topic of chitosan, the book covers its application in food preservation, various aspects of the control achieved by chitosan on different microorganisms affecting various horticultural commodities, grains, and ornamentals, and its modes of action

KEY FEATURES

- Analyzes chitosan chemical and functional properties
- Explores obtaining, characterizing, and developing chitosan coatings and fi lms for agricultural use
- Presents functional properties, antimicrobial potential, and modes of action of chitosan from a physiological, enzymatic, and molecular perspective
- Includes biological models of the activity of chitosan nanocomposites and nanoparticles

DESCRIPTION

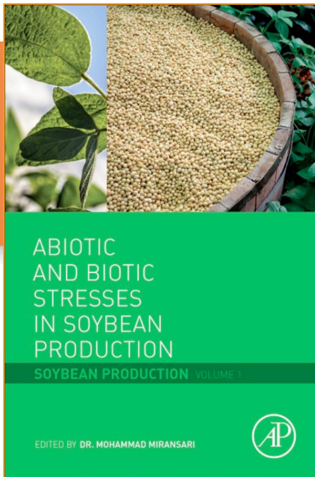
Chitosan in the Preservation of Agricultural Commodities presents a cohesive overview of research topics regarding the production and characterization of chitosan, the development of coatings and fi lms, its functional properties, and antimicrobial potential of this compound on economically important agricultural commodities. It includes the modes of action from a physiological, enzymatic, and molecular perspective, and evaluations of the activity of chitosan nanocomposites and nanoparticles in biological models.

The first section deals with the chemical characteristics and functional properties of chitosan and new chitosan-based biomaterials intended for food preservation. The second section covers various aspects of the control achieved by chitosan on different microorganisms affecting various horticultural commodities, grains, and ornamentals, and its modes of action. The third section explores enzymatic and gene expression induction by chitosan application on fruit and vegetables; the fourth section offers insight on the use of chitosan nanocomposites in biological models associated with food conservation and control of microorganisms.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Abiotic and Biotic Stresses in Soybean Production

Soybean Production Volume 1

Edited by: ***Mohammad Miransari*** Prof. Dr. Mohammad Miransar, Company Manager Dept of Books and Articles AbtinBerkeh Ltd. Co. Iran

Through a presentation of the important results of research in both field and greenhouse conditions, this book guides readers in effectively managing the chemical, physical, and biological factors that can put soybean production at risk, including the latest in genetics, signaling, and biotechnology

ISBN: 978-0-12-801536-0

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 326

TRIM: 6w x 9h

AUDIENCE

Researchers, academicians and scientists in plant biology, plant physiology, plant molecular biology, crop production, plant-microbe interactions, microbiology, biotechnology, environment, etc. It is also of special significance to the industry sector, as the production and processing of soybean grains for food and oil production is an important process. Advanced level students in these areas.

KEY FEATURES

- Presents insights for the successful production of soybean based on chemical, physical and biologic challenges
- Includes the latest specifics on soybean properties, growth, and production, including responses to different stresses and their alleviation methods
- Offers recent advancements related to the process of N fixation and rhizobium, including signaling pathways and their practical use
- Explores the production of rhizobium inoculums at large-scale levels

DESCRIPTION

Abiotic and Biotic Stresses in Soybean Production: Soybean Production Volume One presents the important results of research in both field and greenhouse conditions that guide readers to effectively manage the chemical, physical, and biological factors that can put soybean production at risk.

Including the latest in genetics, signaling, and biotechnology, the book identifies these types of stresses, their causes, and means of avoiding, then addresses existing stresses to provide a comprehensive overview of key production yield factors.

By presenting important insights into the historical and emerging uses for soybean, the book educates readers on the factors for consideration as new uses are developed. It is an ideal complement to volume two, *Environmental Stress Conditions in Soybean Production*, that work together to provide valuable insights into crop protection.

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Cheese, 4e

Chemistry, Physics and Microbiology

Edited by: ***Paul L. H. McSweeney*** University College Cork, Ireland
Patrick F. Fox University College Cork, Ireland
Paul Cotter Teagasc Food Research Centre, Moorepark, Fermoy, Cork, Ireland APC Microbiome Institute, University College Cork, Cork, Ireland
David W Everett

ISBN: 978-0-12-417012-4

PREVIOUS EDITION ISBN: 9780122636516

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 1420

TRIM: 8.5w x 10.875h

AUDIENCE

Researchers, advanced students, and production management and control professionals

The advanced insights needed by researchers in cheese science

KEY FEATURES

- Features new chapters on Milk for Cheesemaking, Acceleration and Modification of Cheese Ripening, Cheesemaking Technology, Low-Fat and Low Sodium Cheesemaking, and Legislation
- Offers practical explanations and solutions to challenges
- Content presented is ideal for those learning and practicing the art of cheesemaking in all levels of research and production

DESCRIPTION

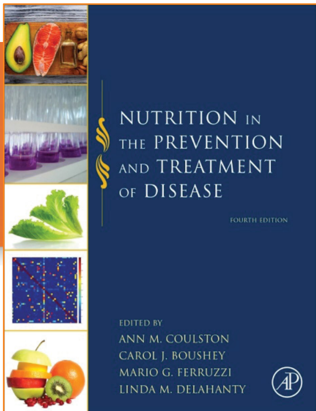
This comprehensive overview of the chemical, biochemical, microbiological and physico-chemical aspects of cheese takes the reader from rennet and acid coagulation of milk to the role of cheese and related foods in addressing public health issues.

The work addresses the science from the basic definition of cheese to the diverse factors that affect the quality of cheese. The understanding these fermented milk-based food products is vital to a global audience, with the market for cheese continuing to increase even as new nutritional options are explored.

Additional focus is provided on the specific aspects of the ten major variety cheese families as defined by the characteristic features of their ripening.

Cheese manufacture – one of the classic examples of food preservation – provides over 1000 varieties of this globally popular food. Preserving the most important constituents of milk, cheese exploits both lactic acid fermentation and reduction of water activity, resulting in a shelf-stable product with a wide variety of flavors and textures.

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Nutrition in the Prevention and Treatment of Disease, 4e

Edited by: ***Ann M. Coulston*** Nutrition Consultant, Santa Fe, NM, USA
Carol J. Boushey Epidemiology Program, University of Hawaii Cancer Center, Honolulu, HI, USA
Mario Ferruzzi Department of Food Science, Purdue University, West Lafayette, IN, USA
Linda Delahanty

This comprehensive clinical nutrition textbook uniquely focuses on the clinical applications and disease prevention of nutrition, clearly linking the contributions of basic science to applied nutrition research and, in turn, to research-based patient care guidelines

ISBN: 978-0-12-802928-2

PREVIOUS EDITION ISBN: 9780123918840

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 896

TRIM: 8.5w x 10.875h

AUDIENCE

Upper division undergraduates and graduate students in nutrition and dietetics; professional nutritionists, dieticians, epidemiologists, general practitioners, nurse practitioners, and family medicine physicians

KEY FEATURES

- Fully updated; all chapters present current state of research
- Increased number of illustrations, graphs, and tables in each chapter; expanded color insert to encourage stronger comprehension
- Useful in the classroom for upper division nutrition courses and in graduate study
- Expert nutrition scientists writing about their research in each chapter
- Current issues addressed which are updated and change with each edition

DESCRIPTION

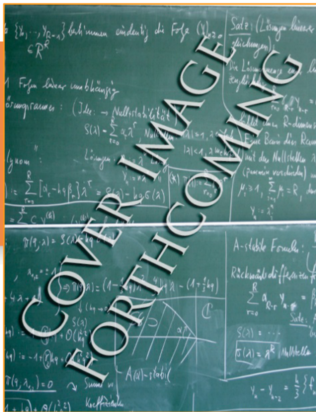
Nutrition in the Prevention and Treatment of Disease has been proving itself in the classroom for over 15 years and is praised as being accessible, applicable and a valuable textbook. The fourth edition is designed to take the advanced nutrition student or nutrition professional through key components of nutrition research, bioactive components, and clinical nutrition. Each chapter is written by a nutrition scientist currently researching the topic of their chapter, ensuring the most current information with helpful interpretation of critical data.

In response to widespread classroom use, the editors have increased the number of illustrations, graphs, and tables in each chapter and have added new teaching and learning tools to make this book even more user-friendly for instructors and students while continuing to be a helpful desk reference for practicing clinicians and working researchers.

New to this edition:

- Chapters on nutrition intervention and tools & techniques for intervention have been combined to make this content more immediately useful
- Re-orients the chapters on Bioactive Compounds for Health to be more approachable
- New chapter on food constituents and cognitive decline
- New chapters on proteomics, genomics, and metabolomics as they relate to nutrient utilization and cellular metabolism in the human body
- New chapter on current sodium and potassium controversy for morbidity & mortality

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Vegetarian and Plant Based Diets in Health and Disease Prevention

Edited by: ***Francois Mariotti*** Associate Professor of Nutrition at AgroParisTech, France

ISBN: 978-0-12-803968-7

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 870

TRIM: 8.5w x 10.875h

AUDIENCE

Nutritional scientists (from students to researchers, lecturers, and professionals); job titles include Researcher, Director of research, Principal investigator, Lecturer, Assistant Professor, Professor, Medical doctor, Nutritionist). Food scientists, dieticians, epidemiologists, public health researchers

A thorough evidence-based overview of the health implications of vegetarian diets

KEY FEATURES

- Provides a balanced evidence-based approach to analyze the positive and negative aspects of vegetarianism
- Covers virtually all aspects of the vegetarianism and its impact on human health
- Gathers together multidisciplinary data to explain the general context and scope while also addressing the complexity of the subject head on
- Addresses the different vegetarian diets including geographical and cultural variations of vegetarianism

DESCRIPTION

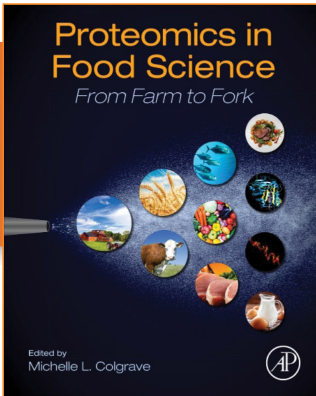
Vegetarian and Plant-Based Diets in Health and Disease Prevention examines the science of vegetarian diets and their nutritive impact on human health. Because plant-based diets exclude animal food products to differing degrees in natural populations around the world, the Editor and contributors have taken care to consider both positive and negative impacts of such diets. Because of the inherent difficulty in identifying the specific contribution to the diet as compared to the many other factors that are associated with the fact to follow a vegetarian diet, the book presents in details the full context associated with vegetarian diets. The book analyses the literature to precise the relations between vegetarian diets and the different health-related parameters and disease risks that they may impact, and it details the relation with the intake of different nutrients and other substances through vegetarian diets, and the resulting nutritional status in connection with health.

Vegetarian and Plant-Based Diets in Health and Disease Prevention is structured in sections to clarify the approach. The first section describes the complexity of vegetarian diets and their strong associations with factors that impact health. Information about regional, cultural, religious variation gives an international overview. The second section focuses on the main dietary characteristics of vegetarian diets and presents what is known between those specific characteristics and health. The third section presents all the evidence between vegetarian diets taken as a whole and specific health and disease issues. Section four presents the population specific issue with vegetarian diets throughout life. Section five ends the book with a nutrient-specific analysis presenting the intake and status in nutrients and other dietary substances in vegetarian diets.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Proteomics in Food Science

From Farm to Fork

Edited by: ***Michelle Lisa Colgrave*** Proteomics Research Officer, CSIRO, Queensland, Australia

A resource for industry on how to perform successful proteomics experiments on food to further research

ISBN: 978-0-12-804007-2

PUB DATE: June 2017

FORMAT: Paperback

PAGES: c. 480

TRIM: 7.5w x 9.25h

AUDIENCE

Food scientists, technologists, food industry workers, microbiologists, public health workers

KEY FEATURES

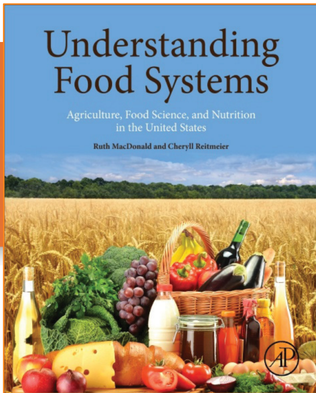
- Includes a variety of analytical platforms ranging from simple electrophoresis to more sophisticated mass spectrometry and bio-informatic platforms
- Presents analytical techniques for each food domain including beverages, meats, dairy and eggs, fruit, fish/seafood, cereals, nuts and grains that range from sample collection, proportion, and storage analysis
- Provides applications of proteomics in hot topics area of food safety including food spoilage, pathogenic organisms and allergens
- Covers major pathogens of concern eg. Salmonella and applications to animal husbandry

DESCRIPTION

Proteomics in Food Science: From Farm to Fork is a solid reference providing concepts and practical applications of proteomics for those in industry in various disciplines of food science. The book covers a range of methods for elucidating the identity or composition of specific proteins in foods or cells related to food science: from spoilage organisms to edible components. A variety of analytical platforms are described ranging from usage of simple electrophoresis to more sophisticated mass spectrometry and bio-informatic platforms. The book is designed for food scientists, technologists, food industry workers, microbiologists, public health worker and can be a valuable reference book for students.

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Understanding Food Systems

Agriculture, Food Science, and Nutrition in the United States

Ruth MacDonald Food Science and Human Nutrition College of Agriculture and Life Sciences and College of Human Sciences CALS Assistant Dean of Graduate Programs, Iowa State University, Ames, IA, USA
Cheryll Reitmeier Food Science and Human Nutrition, Iowa State University, Ames, IA, USA

ISBN: 978-0-12-804445-2
PUB DATE: June 2017
FORMAT: Paperback
PAGES: c. 352
TRIM: 7.5w x 9.25h

AUDIENCE

Dietitians, Food Scientists,Nutrition Scientists, Health, nutrition, public policy students, agriculture students, sustainable agriculture students and researchers, Health care workers

Presents the underpinnings of food systems, from production to consumption

KEY FEATURES

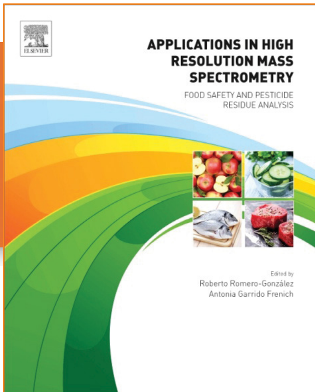
- Presents the evolution of the US food system, from historical beginnings, to current consumer and political roles and responsibilities
- Provides farm to fork insights on production and consumption practices in the United States
- Explores complex topics in call-out boxes throughout the text to help readers understand the various perspectives on controversial topics

DESCRIPTION

Understanding Food Systems: Agriculture, Food Science, and Nutrition explores the complex and evolving system from which the United States gets its food. From farm, to home, and everything in-between, the authors use a scientific perspective that explains the fundamentals of agricultural production, food science, and human nutrition that will guide readers through the issues that shape our food system, including the political, societal, environmental, economic, and ethical concerns.

Presenting the role and impact of technology, from production to processing and safety, to cultural and consumer behavior perspectives, the book also explores the link between food systems and the history of nutrients and diet patterns, and how these influence disease occurrence. Current topics of concern and debate, including the correlations between food systems and diet-related diseases, such as obesity and diabetes are explored, as are the history and current status of food insecurity and accessibility.

Throughout the text, readers are exposed to current topics that play important roles in personal food choices and how they influence components of the food system.



Applications in High Resolution Mass Spectrometry

Food Safety and Pesticide Residue Analysis

Edited by: ***Roberto Romero-González*** Department of Chemistry and Physics, University of Almería, Almería, Spain
Antonia Garrido Frenich Department of Chemistry and Physics, University of Almería, Almería, Spain

ELSEVIER

ISBN: 978-0-12-809464-8

PUB DATE: June 2017

FORMAT: Paperback

PAGES: c. 300

TRIM: 7.5w x 9.25h

AUDIENCE

Researchers in universities, government agencies, and private industry in food safety, food chemistry, analytical chemistry, and toxicology; and graduate students in these areas

A cornerstone resource in food safety and analytical chemistry, providing thorough coverage of the state-of-the-art principles and methods for using HRMS to analyze pesticide residue in food

KEY FEATURES

- Arms researchers with an in-depth resource devoted to the rapid advances in HRMS tools and strategies for pesticide residue analysis in food
- Provides a complete overview of analytical methodologies and applications of HRMS, including UHPLC-HRMS, HRMS coupled with time of flight (TOF) and/or GC-Orbitrap, and flow injection-HRMS
- Discusses the current international regulations and legislation related to the use of HRMS in pesticide residue analysis
- Features a chapter on the hardware and software available for HRMS implementation
- Offers separate chapters on HRMS applied to pesticide residue analysis in fruits and vegetables and in food from animal origin

DESCRIPTION

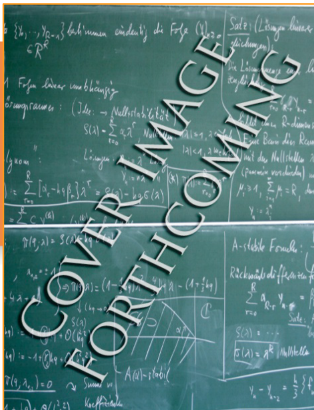
Applications of High Resolution Mass Spectrometry is the first book to offer complete coverage of all aspects of high resolution mass spectrometry (HRMS) used for the analysis of pesticide residue in food. Aimed at researchers and graduate students in food safety, toxicology, and analytical chemistry, the book equips readers with foundational knowledge of HRMS, including established and state-of-the-art principles and analysis strategies. Additionally, it provides a roadmap for implementation, including discussions of the latest instrumentation and software available.

Detailed coverage is given to the application of HRMS coupled to ultra high-performance liquid chromatography (UHPLC-HRMS) in the analysis of pesticide residue in fruits and vegetables and food from animal origin. The book also discusses extraction procedures and the challenges of sample preparation, gas chromatography coupled to high resolution mass spectrometry, flow injection-HRMS, ambient ionization, and identification of pesticide transformation products in food. Responding to the fast development and application of these new procedures, this book is an essential resource in the food safety field.

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Bioactive Polysaccharides

Shaoping Nie Professor State Key Laboratory of Food Science and Technology, Nanchang University Nanchang, Jiangxi, China
Steve Cui Guelph Food Research Center, Agriculture and Agri-Food Canada Guelph, Ontario, Canada
Mingyong Xie State Key Laboratory of Food Science and Technology, Nanchang University Nanchang, Jiangxi, China

ISBN: 978-0-12-809418-1
PUB DATE: June 2017
FORMAT: Paperback
PAGES: c. 400
TRIM: 6w x 9h

AUDIENCE

R and D scientists in functional food industry, nutrition researchers, functional food product developers, food chemists

Reviews the structures and bioactivities of polysaccharides with a focus on extraction and fractionation technologies

KEY FEATURES

- Serves as a comprehensive review on extraction technologies and as a practical guide for purification and fractionation of bioactive polysaccharides
- Brings step-by-step strategies for elucidation the fine structures and molecular characterizations of bioactive polysaccharides
- Includes detailed experimental design and methodologies for investigation bioactivities using both in-vitro and in-vivo protocols
- Clarifies how to extract, purify and fractionate bioactive polysaccharides, besides exploring health benefits of bioactive polysaccharides
- Useful as a guide to explore the commercial potentials of bioactive polysaccharides as pharmaceuticals, medicine and functional foods

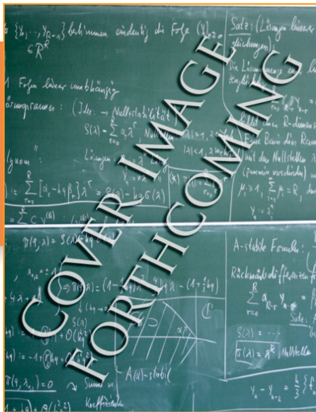
DESCRIPTION

Bioactive Polysaccharides offers a comprehensive review of the structures and bioactivities of bioactive polysaccharides isolated from traditional herbs, fungi and seaweeds. It describes and discusses in detail specific topics based on the authors' rich experience: extraction technologies, practical techniques required for purification and fractionation, strategies and skills for elucidating the fine structures, *in-vitro* and *in-vivo* protocols and methodologies for evaluation the specific bioactivities such including immune-modulating activities, anti-cancer activities, anti-oxidant activities, and others.

This unique book also discusses partial structure-functionality (bioactivities) relationships based on conformational studies. This comprehensive work can be used as a handbook to explore potential applications in foods, pharmaceuticals and nutraceutical areas for commercial interests.

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Smart Technologies for Sustainable Smallholder Agriculture

Upscaling in Developing Countries

Edited by: ***David Chikoye*** International Institute of Tropical Agriculture (IITA), Southern Africa Research and Administration Hub (SARAH) Campus, Chelston, Lusaka Province, Zambia ; ***Therese Gondwe*** IITA Southern Africa Research and Administration Hub (SARAH) Campus, Chelston, Lusaka Province, Zambia; ***Nhamo Nhamo*** Cassava Agronomist, International Institute of Tropical Agriculture (IITA), Southern Africa Research and Administration Hub (SARAH) Campus, Chelston, Lusaka Province, Zambia

ISBN: 978-0-12-810521-4

PUB DATE: June 2017

FORMAT: Paperback

PAGES: c. 334

TRIM: 6w x 9h

AUDIENCE

Agricultural research and extension personnel working a range of organizations in particular those who interact and have to, from time to time, advise farmers on how best to invest in sustainable agriculture. Similarly students at tertiary institutions who need to grasp and understand the challenges and opportunities in agriculture in general and the application of climate smart approaches using modern techniques

An holistic approach to analysing the application of climate smart agricultural technologies and how they relate to innovation platforms and suitable policy environment

KEY FEATURES

- Highlights the research gaps and opportunities on climate smart agricultural technologies and institutional arrangements
- Provides information on institutional engagements that are inclusive of value chain actors which support partnerships and development of interactive platforms
- Elaborates some of the effects of the climate extremes on production and socio-economic development of the small farms whose impact has potentially large impact

DESCRIPTION

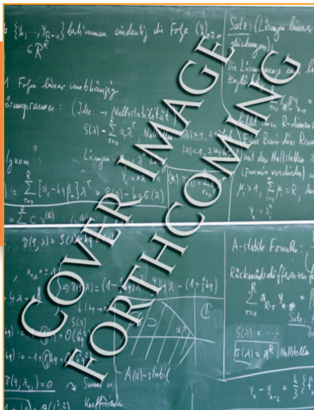
Smart Technologies for Sustainable Smallholder Agriculture defines integrated climate smart agricultural technologies (ICSAT) as a suite of interconnected techniques and practices that enhance quantity and quality of agricultural products with minimum impact on the environment. These ICSAT are centered on three main pillars (a) increased production and income, (b) adaptation and resilience to climate change and (c) minimizing GHG emissions. This book brings ogether technologies contributing to the three pillars, explains the context in which they can be scaled up and identifies research and development gaps as areas requiring further investigation. The book stresses the urgency in critically analysing and recommending ICSAT and scaling out the efforts of both developing and disseminating these in an integrated manner.

The book is presented in three sections. Section 1 defines the scope of and gives a background to climate smart agricultural technologies; section 2 describes the application of technologies mitigate and adapt to climate and weather extremes drawing examples from those technologies that are relevant to the sub-region and section 3 looks at the approaches to reach millions in dissemination of CSAT.

Delivering Integrated Climate Smart Agricultural Technologies for Wider Utilization in Southern Africa takes stock of , discusses, synthesizes and offers alternative solutions to agriculture production systems and socio-economic development. It brings together biophysical and socioeconomic disciplines in evaluating suitable ICSAT to reduce poverty and food insecurity.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Irradiation for Quality Improvement, Microbial Safety and Phytosanitation of Fresh Produce

RIVKA BARKAI-GOLAN
Peter A Follett

ISBN: 978-0-12-811025-6

PUB DATE: June 2017

FORMAT: Paperback

PAGES: c. 300

TRIM: 7.5w x 9.25h

AUDIENCE

Scientists and researchers in food safety/quality/postharvest; growers; regulators; processors; in industry/government; students; food technologists

Provides in-depth knowledge, answers, and suggestions to overcome problems of disease control and how food irradiation can achieve food safety

KEY FEATURES

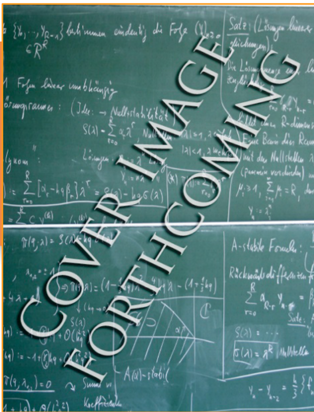
- Discusses pathogen resistance to common chemical synthetic compounds
- Presents up-to-date research and benefits of phytosanitary irradiation
- Includes comprehensive research for alternative treatments for postharvest disease control
- Provides the non-residual feature of ionizing radiation as a physical means for disease control to produce chemical free foods

DESCRIPTION

Food Irradiation: Ionizing Radiation for Shelf Life Extension and Microbial Safety presents the last six and a half decades of scientific information. This book emphasizes proven advantages of ionizing irradiation over the commonly used postharvest treatments for improving postharvest life of fresh fruits and vegetables--- to enhance their microbial safety. This reference is intended for a wide range of scientists, researchers, and students in the fields of plant diseases and postharvest diseases of fruits and vegetables. It is a means for disease control to promote food safety and quality for the food industry and can be used in food safety and agriculture courses.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Hazard Analysis and Risk Based Preventative Controls

Delivering on the Greater Expecatations in Food Safety

Patricia A. Wester

ISBN: 978-0-12-811188-8

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 300

TRIM: 7.5w x 9.25h

AUDIENCE

Food safety practitioners, managers, professionals/corporate executives and food safety auditors across the food supply chain involved in human and animal foods, import/export trade practitioners, international food safety organizations needing reliable information resources, consultants, training organizations, universities and lecturers on food safety

Practical, Step by Step Guide to Achieving FSMA Compliance

KEY FEATURES

- Written by industry experts with direct experience in the formulation of the HARPC regulations
- Presents insights into the underlying approach of FSMA's Preventative Controls
- Transitions readers from HACCP to HARPC using GAP assessment to adapt existing food safety programs to the FSMA Preventative Controls requirements

DESCRIPTION

HARPC: *Delivering on the Greater Expectations in Food Safety* is directed to those food safety professionals charged with ensuring or assisting with FSMA's Preventive Controls (PC) implementation and compliance in their routine job duties. The target audience includes those currently involved in the development, management and execution of HACCP and/or other advanced food safety management systems as well as those that are interested in advancing their knowledge base to gain a more thorough comprehension of HARPC requirements.

FSMA Topics covered include:

- Identifying the Food Safety Team and PCQI
- Creating the HARPC Implementation strategy
- Starting the Food Safety Plan
- Conducting a thorough Hazard Analysis
- Identifying adequate preventive control measures
- Determine appropriate PC management components
- Recognize applicable verification and validation activities
- Supply Chain Management Program
- Recall Plans

Other Operational Topics include:

- Document Control Systems
- Internal audit programs
- Third Party Audit Management
- Regulatory Visit Preparation
- Maintaining Compliance

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COVER IMAGE FORTHCOMING

ISBN: 978-0-08-100718-1

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 370

TRIM: 6w x 9h

AUDIENCE

Welfare research scientists, as well as postgraduate students, Practising vets involved in welfare assessment, NGOs interested in welfare assurance

Advances in Sheep Welfare

Edited by: ***Drewe Ferguson*** Drewe Ferguson, CSIRO Animal Food and Health Sciences (CAFHS) Theme, Australia
Caroline Lee Senior Researcher, Animal Food and Health Sciences (CAFHS) Theme, CSIRO, Australia
Andrew Fisher Professor at the Animal Welfare Science Centre, University of Melbourne, Parkville, Australia

WP WOODHEAD PUBLISHING

An essential part of the Advances in Agricultural Animal Welfare series highlighting advances in the welfare of farmed animals

A Volume in the Herd and Flock Welfare Series.

KEY FEATURES

- Brings together top researchers in the field to provide a comprehensive overview of recent advances in the understanding of sheep welfare and management
- Integral part of a wider series, Advances in Agricultural Animal Welfare, which will provide comprehensive coverage of animal welfare of the world's major farmed animals
- As well as highlighting current advances the title looks ahead to how sheep welfare management will develop in the next ten to fifteen years

DESCRIPTION

Advances in Sheep Welfare examines the recent advances made in sheep welfare assessment, handling and management providing state-of-the-art coverage of the welfare needs of one of the world's most widely farmed animals.

The book is divided into three main sections. The first deals with advances in sheep welfare assessment with chapters covering sheep cognition, physiological measures and welfare risk assessment and management. The second section covers advances in sheep handling and management. Chapters within this section provide information on the latest developments from around the world in genetic solutions, reproductive and nutritional management, managing disease risks and painful husbandry procedures amongst others. The final section looks ahead to the future, and to what sheep welfare will look like in 2030 and beyond.

The book is an essential part of the wider ranging series *Advances in Agricultural Animal Welfare*, with coverage of cattle, pigs, poultry and aquaculture.

With its distinguished editors and international team of contributors, *Advances in Sheep Welfare* is set to be a standard reference for welfare research scientists and students, practising vets involved in welfare assessment, and indeed anyone with a professional interest in the welfare of sheep.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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COVER IMAGE FORTHCOMING

Improving the Sensory and Nutritional Quality of Fresh Meat, 2e

Edited by: ***Joseph Kerry*** University College Cork, Cork, Ireland
Declan Troy Teagasc Food Research Centre, Dublin, Ireland

WOODHEAD PUBLISHING

New edition of highly successful title covering the cutting edge techniques to improve the traditional markers of meat quality

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100720-4

PREVIOUS EDITION ISBN: 9781845693435

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 550

TRIM: 6w x 9h

AUDIENCE

Technologists and industrialists interested in optimizing meat quality, academics and researchers in the meat science field and postgraduate students

KEY FEATURES

- Brings together top researchers in the field to provide a comprehensive overview of recent technological advances in improving meat quality
- Builds on the success of the first edition, but fully revised throughout, with a number of new chapters, bringing it completely up to date
- Both editors are extremely well respected in the field and Joe Kerry is Associate Editor of the journal *Meat Science* (published by Elsevier) which is the largest journal in the world within the area

DESCRIPTION

The fully revised and updated second edition of *Improving the Sensory and Nutritional Quality of Fresh Meat* reviews the essential knowledge of the mechanisms underlying quality characteristics and methods to improve meat sensory and nutritional quality.

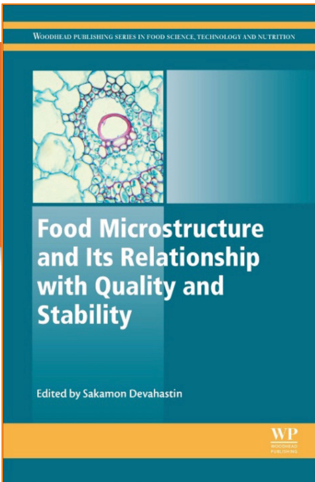
The book is split into three main sections. Part one analyses the scientific basis of meat quality attributes. New chapters in this section cover pre- and post-slaughter inputs affecting meat quality; important flavors precursors impacting on the sensory characteristics of meat and measurable biomarkers linked to meat quality from different production systems amongst others. The second section looks at how meat quality can be measured, with coverage of advances in measuring the sensory aspects of meat and spectroscopic approaches to on-line monitoring of meat quality. The final section looks at new techniques to improve the quality of meat with new chapters on genomic approaches to improving quality of meat and high pressure processing of meat to enhance eating quality.

With its distinguished editors and international team of contributors*, Improving the sensory and nutritional quality of fresh meat* will continue to be a standard reference for those industrialists and academics interested in optimizing meat quality.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Food Microstructure and Its Relationship with Quality and Stability

Edited by: ***Sakamon Devahastin*** Associate Professor in the Department of Food Engineering, King Mongkut's University of Technology Thonburi (KMUTT) in Bangkok, Thailand

WP
WOODHEAD PUBLISHING

ISBN: 978-0-08-100764-8

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 250

TRIM: 6w x 9h

AUDIENCE

Researchers and academics in food quality and stability, postgraduate students in food science, food engineering and related areas, and food industrialists involved in food quality, product development and food processing

A comprehensive and detailed overview of food microstructure and its relationship with quality and stability

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Brings together leading experts from around the world, to provide the latest information in a topic essential to the quality of food products
- Includes dedicated chapters covering the microstructure of specific products and its relationship to the quality and stability making this book ideal for those working in industry
- Provides a single reference source for a topic of great importance to a number of fields within both academic and industrial food sciences – food quality, stability, processing and engineering

DESCRIPTION

Food Microstructure and Its Relationship with Quality and Stability is a comprehensive overview of the effects that the properties of the underlying structures of food have on its perceived quality to the consumer.

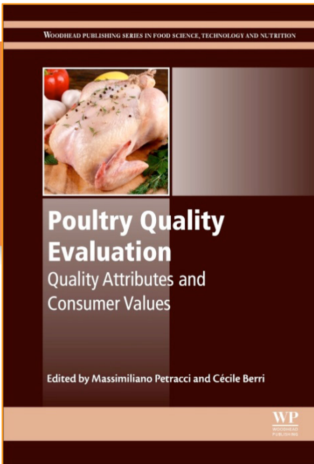
The book is divided into two main parts. The first section consists of chapters outlining the fundamentals of food microstructure, food composition, molecular mobility of various food constituents and their relationships with food quality and stability. The role of various processing technologies in the production of specific microstructures for enhanced quality and stability will also be outlined. The second part of the book consists of various chapters devoting to microstructures, constituents and their relationship with quality, functionality and stability of selected foods for example food hydrocolloids, frozen seafood, dried foods, extruded products and dietary fibers.

This information is of paramount importance for both academic researchers in the areas of food quality, preservation and stability as well as food developers and processors.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Poultry Quality Evaluation

Quality Attributes and Consumer Values

Edited by: ***Massimiliano Petracci*** Associate Professor, University of Bologna, Cesena, Italy
Cecile Berri National Institute for Agricultural Research, Paris, France

WP
WOODHEAD PUBLISHING

ISBN: 978-0-08-100763-1

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 340

TRIM: 6w x 9h

AUDIENCE

Academics and postgraduate students studying poultry science, Academic and postgraduate students studying food quality, Poultry scientists working in an industrial setting, Managers and industrialists in the poultry producing industry, from breeding to convenience food

Covering ethics, genetics, animal welfare and health impact *New Aspects of Poultry Quality* focusses on what constitutes poultry quality in the minds of consumers, marketers and producers in the 21st century

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Brings together top researchers in the field to provide a comprehensive overview of the new elements of poultry quality evaluation
- Provides a reference source specifically on poultry with the same scientific authority as texts on more broad traditional meat quality values
- Editors are very well known and highly respected in the field

DESCRIPTION

In the 21st century the general understanding of what constitutes poultry quality in the minds of consumers, marketers and producers has changed. Traditional measures such as texture, water-holding, color, flavor/aroma, safety/microbiology and processing characteristics are still important; however additional quality attributes now have a significant importance in the purchasing intentions of consumers in many countries. These include animal welfare, the impacts of poultry meat on human health, quality assurance schemes, organic/free range and ethical poultry production and the desirability of genetically modified organisms amongst others.

New Aspects of Poultry Quality provides a new reference source that covers these aspects with the same scientific authority as texts on traditional poultry meat quality values.

The book is divided into three main sections. The first section looks into the new developments in our understanding of how muscle structure affects the eating qualities of cooked meat. The second section highlights new techniques for measuring, predicting and producing poultry meat quality, and how these new techniques help us minimize variability in eating quality and/or maximize value. The final section identifies the current qualities of consumer and public perceptions; what is sustainable, ethical, desirable and healthy in poultry production and consumption.

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COVER IMAGE FORTHCOMING

Soft Drink and Fruit Juice Problems Solved, 2e

P Ashurst Ashurst and Associates
R Hargitt Former Technical Director, British Soft Drinks Association, London, UK
Fiona Palmer Technical Director, British Soft Drinks Association, London, UK

WP WOODHEAD PUBLISHING

ISBN: 978-0-08-100918-5

PREVIOUS EDITION ISBN: 9781845693268

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 240

TRIM: 6w x 9h

AUDIENCE

Professionals within the beverages industry, R&D technologists, innovation teams, technicians and product development chemists. Post-doctoral researchers studying beverages industry processes, Teachers, lecturers and professors beverages production, both under-graduate and post-graduate food science students who are undertaking projects in beverages production

Quickly solve issues in soft drink and fruit juice using this unique question and answer format – now including additional problems and solutions

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Uses a detailed and clear question and answer format that is ideal for quick reference
- Contains additional new, up-to-date problems and solutions. The new chapters will cover: An expanded introduction; Microbiological problems; Shelf life and storage; Fruit juices and nectars; Product claims, nutrition and health claims; Soft drink and fruit juice data sources
- Presents a broad scope of topics and process solutions from the experts in the beverages industry

DESCRIPTION

This fully revised second edition of *Soft Drinks and Fruit Juice Problems Solved* follows the innovative question and answer format of the first edition, presenting a quick problem-solving reference.

Does the use of a preservative in a product mean that it does not need to be pasteurized? How much deviation from ingredient specification is needed to cause a noticeable alteration in product quality? What kinds of organisms will grow in bottled waters? When is it necessary to obtain expert assistance in the event of a contamination incident?

Beverage industry experts provide practical solutions to various issues related to beverage ingredients, manufacturing, product quality, packaging, storage and distribution.

The book includes six new chapters. The new introduction covers basic questions about soft drinks, their ingredients and packaging. The other new chapters expand on microbiological problems, shelf life and storage, fruit juices and nectars, as well as product, nutrition and health claims. The final chapter offers soft drink and fruit juice data sources.

Written by authors with extensive industrial experience, *Soft Drinks and Fruit Juice Problems Solved* is an essential reference and problem-solving manual for professionals and trainees in the beverage industry.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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COVER IMAGE FORTHCOMING

Advances in Pig Welfare

Edited by: ***Marek Špinka*** Professor, Department of Ethology, Institute of Animal Science, Prague, Czech Republic

WP WOODHEAD PUBLISHING

ISBN: 978-0-08-101012-9

PUB DATE: June 2017

FORMAT: Hardback

PAGES: c. 556

TRIM: 6w x 9h

AUDIENCE

Animal Welfare research scientists, Postgraduate students, Policy makers and stakeholders, R&D managers

Examines the developments in the field of pig welfare, providing a well-integrated collection of sharply focused chapters written by top experts in the field

A Volume in the Herd and Flock Welfare Series.

KEY FEATURES

- Provides in-depth reviews of emerging topics, research and applications in pig welfare
- Analyses on-farm assessment of pig welfare, an extremely important marker for the monitoring of real welfare impacts of any changes in husbandry systems
- Edited is a leader in the field of pig welfare, and contributors are experts from veterinary science, welfare academia and practitioners in industry

DESCRIPTION

Advances in Pig Welfare analyzes current topical issues in the key areas of pig welfare assessment and improvement. With coverage of both recent developments and reviews of historical welfare issues, the volume provides a comprehensive survey of the field.

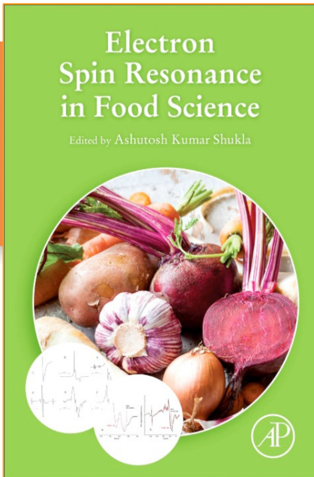
Divided into six sections, the book opens with an introduction to pig welfare research. Section two moves on to review the needs of pigs, including chapters on the physical environment and the social and emotional needs of the animals. The third section covers the key welfare issues in the pig's lifecycle from birth to slaughter with coverage of waning, aggression, and pig-human interactions. Emerging topics such as prenatal stress, individual differences and organic farming are the focus of section four. The fifth section covers assessment of pig welfare and the attitudes towards pig welfare amongst farmers and other stakeholders. The book concludes with a summary section provided by the editor.

With an international team of contributors and a distinguished editor*, Advances in Pig Welfare* will provide a complete reference for practicing vets involved in welfare assessment, welfare research scientists and students, and indeed anyone with a professional interest in the welfare of pigs.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Electron Spin Resonance in Food Science

Ashutosh Kumar Shukla University of Allahabad, Allahabad, India

ISBN: 978-0-12-805428-4

PUB DATE: January 2017

FORMAT: Paperback

PAGES: c. 156

TRIM: 6w x 9h

AUDIENCE

Experts in the field of ESR, food scientists, Industrial researchers and test labs in the fields of food preparation and testing, practitioners in labs involved in food irradiation, technician, scientists and professors in food science and food related organization

Reviews the current scenario of applications of ESR spectroscopy in food science research

KEY FEATURES

- Serves as a complete reference on the application of ESR spectroscopy in food science research
- Focuses on applications and data interpretation, avoiding extensive use of mathematics so that it fulfils the need of young scientists from different disciplines
- Includes informative pages from leading manufacturers, highlighting the features of recent ESR spectrometers used in food science research
- Includes information on different, active, worldwide groups in ESR characterization of food items and beverages

DESCRIPTION

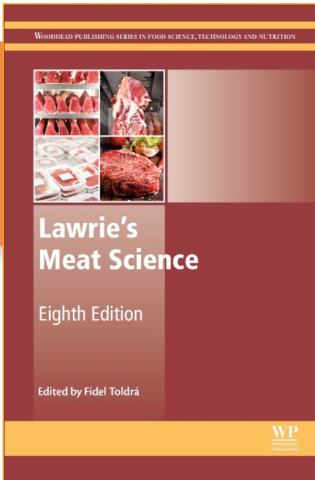
Electron Spin Resonance in Food Science covers, in detail, the ESR identification of the irradiation history of food products and beverages to investigate changes that occur during storage, with an aim of improving hygienic quality and extending shelf-life with minimal tempering in nutritional profile.

The book also includes ESR studies on the interaction of food items and packaging materials, along with a section on new approaches in ESR identification of irradiated foods that is followed by a chapter on international legislation relevant to irradiated food.

A section on ESR applications in characterizing ROS/antioxidants in food items and lipid oxidation, including spin labeling, spin trapping and imaging applications is also covered, as are ESR applications in nutrition and pharmaceutics.

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Lawrie´s Meat Science, 8e

Edited by: ***Fidel Toldrá*** Department of Food Science, Instituto de Agroquímica y Tecnología de Alimentos (CSIC), Valencia, Spain

WOODHEAD PUBLISHING

ISBN: 978-0-08-100694-8

PREVIOUS EDITION ISBN: 978-1-84569-159-2

PUB DATE: May 2017

FORMAT: Hardback

PAGES: c. 250

TRIM: 6w x 9h

AUDIENCE

Academics in meat science, Scientists and researchers – PhD and MS degrees at research institutions and industry, Post-docs and post-graduate students (PhD and MS level), Senior level undergraduate students, Private producers/processors/entrepreneurs in meat and livestock sectors, research and development segment in food industry, Staff at for-profit and non-profit organizations in meat and livestock sectors

New, fully updated and expanded edition of the standard reference volume for meat science and the meat industry

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Encompasses the recognized gold- standard reference for the meat industry
- Brings together leading experts in each area, providing a complete overview of the meat sciences
- Includes all the latest advances, bringing this new edition completely up-to-date, including developments in meat quality, safety, and storage

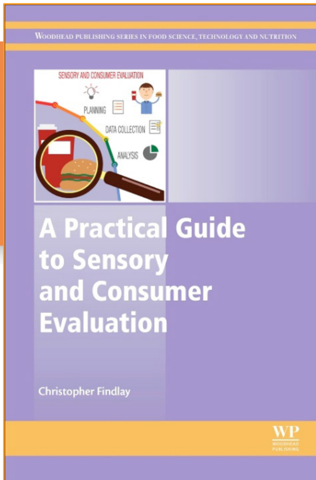
DESCRIPTION

Lawrie's Meat Science, Eighth Edition provides a timely and thorough update to this key reference work, documenting significant advances in the meat industry, including storage and preservation of meat, the eating quality of meat, and meat safety.

The book examines the growth and development of meat animals, from the conversion of muscle to meat and eventual point of consumption. This updated volume has been expanded to include chapters examining such areas as packaging and storage, meat tenderness, and meat safety. Furthermore, central issues such as the effects of meat on health and the nutritional value of meat are analyzed.

Broadly split into four sections, the book opens with the fundamentals behind the growth of meat animals. The second section covers the storage and spoilage of meat products, with the third section exploring the eating quality of meat, from flavor to color. The final section reviews meat safety, authenticity, and the effect of meat on health.

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A Practical Guide to Sensory and Consumer Evaluation

Christopher Findlay Founder and Chairman of CompuSense, Guelph, Ontario, Canada

WP
WOODHEAD PUBLISHING

A practical guide on best practices for performing sensory testing and consumer evaluation from a renowned expert on the topic

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100378-7

PUB DATE: April 2017

FORMAT: Hardback

PAGES: c. 288

TRIM: 6w x 9h

AUDIENCE

Sensory managers, students studying sensory methods, consumer and market research practitioners, R&D managers in the food industry, quality managers in the food industry and SME food manufacturers

KEY FEATURES

- Presents answers to the various questions of sensory and consumer evaluation professionals from one of the world's leading sensory scientists
- Offers practical insights, permitting someone new to the topic to confidently select a method, conduct research, and report results
- Provides worked, real-world examples of sensory and consumer research projects from leading sensory science laboratories of CompuSense

DESCRIPTION

A Practical Guide to Sensory and Consumer Evaluations a single resource for those new to sensory science and consumer evaluation, teaching them how to confidently select a method, conduct research, and report the results. Written by one of the world's leading sensory scientists, this book delivers a practical, hands-on approach to answering sensory and consumer evaluation questions.

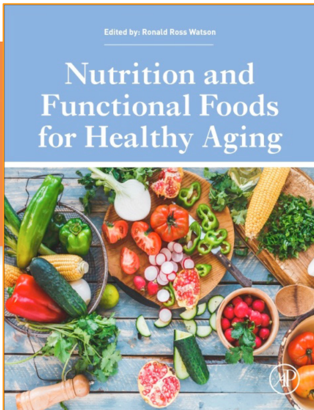
Each chapter is organized around a key practical question stated at the outset. Rather than providing a number of approaches which tend to confuse the reader, the book delivers a step-by-step guide to the specific challenge, with any variations in methods explained within the context of problem-solving.

In addition, each method has real-life, worked example taken from the archives of CompuSense, a world leading sensory science laboratory. A series of appendixes covering 'How do I' topics provides practical guidance to larger questions on organizing, conducting, and reporting the results of sensory tests.

Many sensory and consumer practitioners do not receive formal training in the operations side of sensory. For those who don't have the time or the need for a broad-based education in the field, this book is an effective, reliable, and practical guide to achieve valuable answers to sensory and consumer research questions.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Nutrition and Functional Foods for Healthy Aging

Ronald Ross Watson Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA

ISBN: 978-0-12-805376-8
PUB DATE: March 2017
FORMAT: Hardback
PAGES: c. 374
TRIM: 8.5w x 10.875h

AUDIENCE

Nutrition researchers and clinicians working with aging populations, students studying geriatric nutrition, functional food developers working on product lines for aging adults

Detailed review of the health problems of the aged and how they can be modified by functional foods and dietary supplements

KEY FEATURES

- Explains the evidence supporting nutritional interventions relevant to age-related diseases
- Reviews the macro- and micro-nutrient requirements of aging adults and their variables
- Describes how alcohol, drugs, and caffeine can impact deficiencies, also exploring functional food and dietary supplements that can be used for prevention and treatment

DESCRIPTION

Nutrition and Functional Foods for Healthy Aging aims to equip anyone studying geriatric nutrition or working with aging adults with the latest scientific reviews of critical topics. The major objective of this book is to review, in detail, the health problems of the aged and how normal food, lifestyle, or nutritional and dietary supplements can help treat them.

Nutrient requirements for optimum health and function of aging physiological systems are often quite distinct from those required for young people. The special nutrition problems of the aged are intensively researched and tested, especially as the elderly become a larger percentage of the population. Many chronic diseases and cancers are found with higher frequency in the aged, and it is also widely known that many elderly people use foods and nutrients well above the recommended daily allowance, which can be detrimental to optimal health.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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New Aspects of Meat Quality

From Genes to Ethics

Edited by: ***Peter P. Purslow*** Professor, Food Technology, University of Central Province of Buenos Aires, Argentina

WOODHEAD PUBLISHING

ISBN: 978-0-08-100593-4

PUB DATE: March 2017

FORMAT: Hardback

PAGES: c. 698

TRIM: 6w x 9h

AUDIENCE

Meat scientists working in an industrial setting, managers in the meat producing industry, from breeding to convenience food production, in addition to academics and postgraduate students studying meat science

Focuses on what constitutes meat quality in the minds of consumers, marketers, and producers in the 21st century

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Brings together top researchers in the field to provide a comprehensive overview of the new elements of meat quality
- Provides a reference source that covers the new aspects of meat quality with the same scientific authority as texts on traditional meat quality values<
- Edited by an extremely well respected expert in the field who is an Associate Editor of the journal *Meat Science* (published by Elsevier), the largest global journal within this area

DESCRIPTION

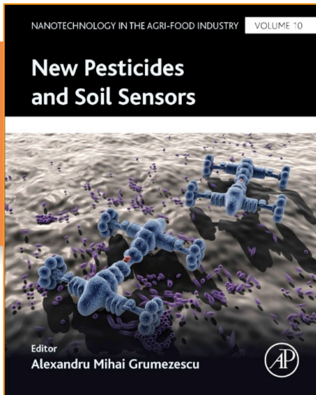
New Aspects of Meat Quality: From Genes to Ethics provides a reference source that covers what constitutes meat quality in the minds of consumers, marketers, and producers in the 21st century, using the same scientific authority as texts on traditional meat quality values.

Traditional measures in meat quality, such as texture, waterholding, color, flavor/aroma, safety/microbiology, and processing characteristics are still important, however, additional quality attributes now have huge importance in the purchasing intentions of consumers in many countries. These include, amongst others, animal welfare, the impacts of meat on human health, quality assurance schemes, organic/free range, ethical meat production, and the desirability of genetically modified organisms.

The book is divided into three main sections, with the first section covering the developments in our understanding of how muscle structure affects the eating qualities of cooked meat. The second section highlights recently developed techniques for measuring, predicting, and producing meat quality, and how these new techniques help us minimize variability in eating quality and/or maximize value. The final section identifies the current qualities of consumer and public perceptions, and what is sustainable, ethical, desirable, and healthy in meat production and consumption.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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New Pesticides and Soil Sensors

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804299-1

PUB DATE: February 2017

FORMAT: Hardback

PAGES: c. 766

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, Researchers, academic staff and students across all of food science

Explore cutting-edge nanotechnologies and emerging purification applications to improve efficiencies, quality, and availability of safe drinking water

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

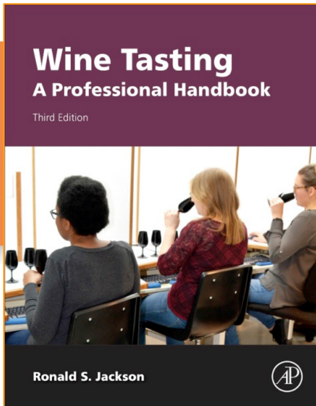
- Provides examples of pesticide formulations that contain inorganic and organic nanoparticles
- Includes general principles and the most recent applications of chemical sensors and multisensory systems for the assessment of soils and main soil nutrition component detection
- Presents the main benefits and drawbacks of chemical sensors and their employment in soil analysis for further applications
- Describes current issues of pesticide use, environmental contamination, bioaccumulation, and increases in pest resistance which demands a reduction in the quantity of pesticides applied for crop and stored product protection

DESCRIPTION

New Pesticides and Soil Sensors, a volume in the *Nanotechnology in the Agri-Food Industry* series, is a practical resource that demonstrates how nanotechnology is a highly attractive tool that offers new options for the formulation of 'nanopesticides'. Recent advances in nanopesticide research is reviewed and divided into several themes, including improvement of the water solubility of poorly soluble pesticide active ingredients to improve bioavailability and the encapsulation of pesticide active ingredients within permeable nanoparticles with the aim of releasing pesticide active ingredients in a controlled or targeted manner, while also protecting active ingredients from premature photo-degradation.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Wine Tasting, 3e

A Professional Handbook

Ronald S. Jackson Brock University, Cool Climate Oenology and Viticulture Institute, St. Catharine's, Ontario, Canada

ISBN: 978-0-12-801813-2

PREVIOUS EDITION ISBN: 9780123790767

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 416

TRIM: 8.5w x 10.875h

AUDIENCE

For people involved in wine production, tasting, commercial judging, quality assessment of wine and wineries, wine societies, wine appreciation courses, or training of tasters (wineries, wine merchants); University researchers and students at schools with viticulture programs. Also serious wine connoisseurs who want to maximize their perception and appreciation of wine

An essential guide for anyone seeking to understand both the theory and practice of wine tasting, from assessment to properties and quality

A Volume in the Food Science and Technology Series.

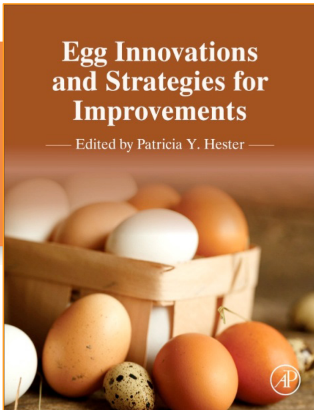
KEY FEATURES

- Contains revised and updated coverage, notably on the physiology and neurology of taste and odor perception
- Includes expanded coverage of the statistical aspect of wine tasting (specific examples to show the process), qualitative wine tasting, wine language, the origins of wine quality, and food and wine combination
- Provides a flow chart of wine tasting steps and production procedures
- Presents practical details on wine storage and the problems that can occur both during and following bottle opening

DESCRIPTION

From OIV-award-winning author, Ronald S. Jackson, *Wine Tasting: A Professional Handbook, Third Edition,* is an essential guide for any professional or serious connoisseur seeking to understand both the theory and practice of wine tasting. From techniques for assessing wine properties and quality, including physiological, psychological, and physicochemical sensory evaluation, to the latest information on the types of wine, the author guides the reader to a clear and applicable understanding of the wine tasting process.

With its inclusion of illustrative data and testing technique descriptions, the book is ideal for both those who train tasters, those involved in designing wine tastings, and the connoisseur seeking to maximize their perception and appreciation of wine.



Egg Innovations and Strategies for Improvements

Edited by: ***Patricia Hester*** Department of Animal Sciences, Purdue University, West Lafayette, IN, USA

ISBN: 978-0-12-800879-9

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 628

TRIM: 8.5w x 10.875h

AUDIENCE

Designed for poultry and food scientists, technologists, food industry workers, microbiologists, public health workers. It is valuable as an industrial reference book and also for academic libraries that cover the domains of food production, poultry conglomerates or food science

A focused, one-volume resource on the key aspects of a globally important food source

KEY FEATURES

- Focuses on the production and food science aspects of eggs
- Includes a broad range of microbial contaminants, their risks and prevention as well as non-microbial contaminant risks
- Presents analytical techniques for practical application

DESCRIPTION

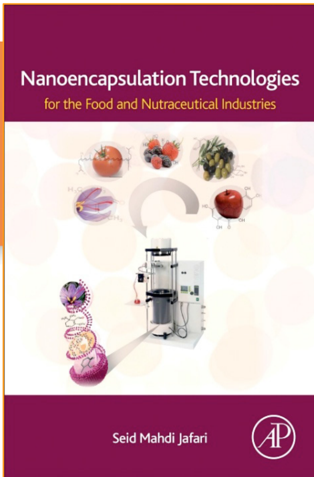
Egg Innovations and Strategies for Improvements examines the production of eggs from their development within the hen to human consumption. Chapters also address consumer acceptance, quality control, regulatory aspects, cost and risk analyses, and research trends.

Eggs are a rich source of macro- and micronutrients which are consumed not only by themselves but also within the matrix of food products such as pastas, cakes, and pastries. A wholesome, versatile food with a balanced array of essential nutrients, eggs are a stable of the human diet. Emerging strategies entail improvements to the composition of eggs via fortification or biological enrichment of hen's feed with polyunsaturated fatty acids, antioxidants, vitamins, or minerals. On the other hand, eggs can also be a source of food-borne disease or pollutants which has effects on not only human health but also egg production and commercial viability.

Written by an international team of experts, *Egg Innovations and Strategies for Improvements* presents a unique overview of the biology and science of egg production, nutrient profiling, disease and modes for increasing the production and quality of eggs. Designed for poultry and food scientists, technologists, microbiologists, as well as workers in public health and the food and egg industries, the book is valuable as an industrial reference and also for academic libraries.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Nanoencapsulation Technologies for the Food and Nutraceutical Industries

Seid Mahdi Jafari Associate Professor Department of Food Materials and Process Design Engineering, Faculty of Food Science and Technology, University of Agricultural Sciences and Natural Resources, Pardis, Basidj Square, Gorgan, Iran

ISBN: 978-0-12-809436-5
PUB DATE: January 2017
FORMAT: Paperback
PAGES: c. 614
TRIM: 6w x 9h

AUDIENCE

Researchers and industry personnel in food science in general, professionals in the food engineering, food processing, food ingredients and nutraceutical areas that are related to the nanotechnology/ microencapsulation field

A reference manual on the basic concepts, novel applications, and the current and future potential of nanoencapsulation technologies

KEY FEATURES

- Serves as a compendium of recent techniques and systems for nanoencapsulation of bioactive compounds
- Brings together basic concepts and the potential of nanoencapsulation technologies, also including their novel applications in functional foods and nutraceutical systems
- Includes biopolymer based nano-particle formation techniques, formulation based processes, process based nanoencapsulation, and nano-carrier based process

DESCRIPTION

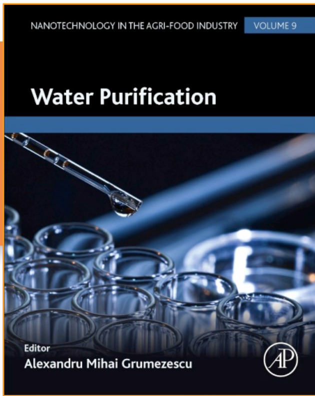
Nanoencapsulation Technologies for the Food and Nutraceutical Industries is a compendium which collects, in an easy and compact way, state-of-the-art details on techniques for nanoencapsulation of bioactive compounds in food and nutraceutical industries.

The book addresses important modern technologies, including biopolymer based nano-particle formation techniques, formulation based processes, such as nano-liposomes and nano-emulsions, process based nano-encapsulation, such as electro-spinning and nano-spray drying, natural nano-carrier based processes, like casein and starch nano-particles, and other recent advances.

This definitive reference manual is ideal for researchers and industry personnel who want to learn more about basic concepts and recent developments in nanotechnology research.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Water Purification

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

Explores cutting-edge nanotechnologies and emerging purification applications to improve efficiencies, quality, and availability of safe drinking water

A Volume in the Nanotechnology in the Agri-Food Industry Series.

ISBN: 978-0-12-804300-4

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 742

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, Researchers, academic staff and students across all of food science

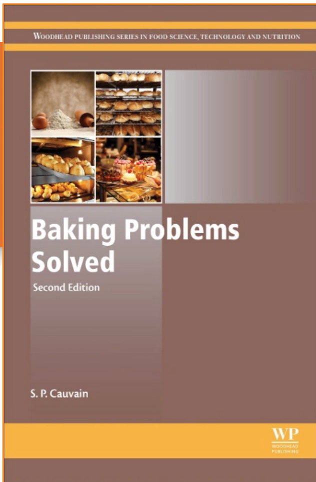
KEY FEATURES

- Includes the most up-to-date information on nanotechnology applications and research methods for water purification and treatment
- Presents applications of nanotechnology and engineered nanomaterials in drinking water purification to improve efficiency and reduce cost
- Provides water purification research methods that are important to water quality, including precipitation, adsorption, membrane separation, and ion exchange
- Covers the potential risks of nanotechnology, such as the toxicological effects of engineered nanomaterials in water and how to minimize risks based on research studies

DESCRIPTION

Water Purification, a volume in the *Nanotechnology in the Food Industry* series, provides an in-depth review of the current technologies and emerging application of nanotechnology in drinking water purification, also presenting an overview of the common drinking water contaminants, such as heavy metals, organics, microorganisms, pharmaceuticals, and their occurrences in drinking water sources.

As the global water crisis has motivated the industry to look for alternative water supplies, nanotechnology presents significant potential for utilizing previously unacceptable water sources. This books explores the practical methodologies for transforming water using nanotechnologies, and is a comprehensive reference to a wide audience of food science research professionals, professors, and students who are doing research in this field.



Baking Problems Solved, 2e

S P Cauvain Visiting Professor, International Institute for Agri-Food Security, Curtin University

WOODHEAD PUBLISHING

ISBN: 978-0-08-100765-5
PREVIOUS EDITION ISBN: 978-1-85573-564-4
PUB DATE: February 2017
FORMAT: Hardback
PAGES: c. 406
TRIM: 6w x 9h

AUDIENCE

Professionals within the bakery industry. R&D technologists, innovation teams, technicians and product development chemists. Post-doctoral researchers studying cereal and bakery processes. Teachers, lecturers and professors outlining their cereal chemistry modules. Both under-graduate and post-graduate food science students who are undertaking projects in baking

Applies the original innovative question and answer format to the latest developments in baking and the most commonly sought solutions

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

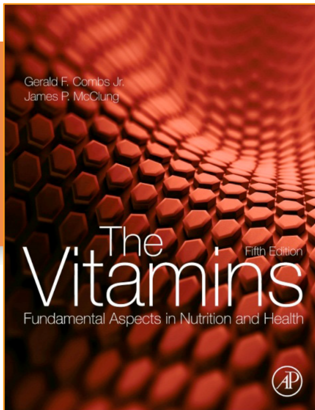
- Uses a detailed and clear question and answer format that is ideal for quick reference
- Combines new, up-to-date problems and solutions with the best of the previous volume
- Presents a wide range of ingredient and process solutions from a world-leading expert in the baking industry

DESCRIPTION

Baking Problems Solved, Second Edition, provides a fully revised follow-up to the innovative question and answer format of its predecessor. Presenting a quick bakery problem-solving reference, Stanley Cauvain returns with more practical insights into the latest baking issues. Retaining its logical and methodical approach, the book guides bakers through various issues which arise throughout the baking process.

The book begins with issues found in the use of raw materials, including chapters on wheat and grains, flour, and fats, amongst others. It then progresses to the problems that occur in the intermediate stages of baking, such as the creation of doughs and batters, and the input of water. Finally, it delves into the difficulties experienced with end products in baking by including chapters on bread and fermented products, cakes, biscuits, and cookies and pastries.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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The Vitamins, 5e

Fundamental Aspects in Nutrition and Health

Gerald F. Combs, Jr. Professor Emeritus, Division of Nutritional Sciences, Cornell University, Ithaca, NY, USA
James P. McClung Westborough, Massachusetts, USA

ISBN: 978-0-12-802965-7

PREVIOUS EDITION ISBN: 9780123819802

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 640

TRIM: 8.5w x 10.875h

AUDIENCE

Upper level undergraduate and graduate students studying micronutrients in nutrition programs, researchers in nutrition, food science, pharmacology, endocrinology, public health, and epidemiology; dieticians, clinicians

A fully updated, authored reference on the biochemistry and physiology of vitamins and vitamin-like substances

KEY FEATURES

- Includes diagnostic trees for vitamin deficiencies to help readers visually understand and recognize signs of specific deficiencies
- Updated tables and figures throughout serve as quick references and support key takeaways
- Provides learning aids, such as call-out boxes to increase comprehension and retention of important concepts

DESCRIPTION

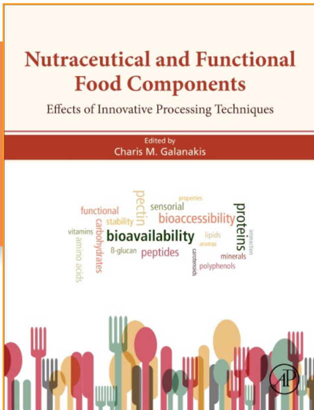
The Vitamins: Fundamental Aspects in Nutrition and Health, Fifth Edition, provides the latest coverage of the biochemistry and physiology of vitamins and vitamin-like substances. Health-related themes present insights into the use of vitamins, not only for general nutritional balance, but also as a factor in the prevention and/or treatment of specific health issues, such as overall immunity, inflammatory diseases, obesity, and anemia.

Readers will gain an understanding of the roles vitamins play in gene expression and epigenetics, providing important information on the further development of personalized medical treatments that will also allow them to establish appropriate dietary programs based on individual genetic profiles.

This cohesive, well-organized presentation of each vitamin includes key words, case studies, and coverage of the metabolic functions of appropriate vitamins. The readability of this complex content is highly regarded by students, instructors, researchers, and professionals alike.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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ISBN: 978-0-12-805257-0

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 362

TRIM: 8.5w x 10.875h

AUDIENCE

Food industry professionals and academics, especially those studying nutrition and functional food

Nutraceutical and Functional Food Components

Effects of Innovative Processing Techniques

Edited by: ***Charis Michael Galanakis*** Galanakis Laboratories, Chania, Greece

A valuable reference detailing how novel food processing technologies impact the nutritional values and other properties of nutraceuticals

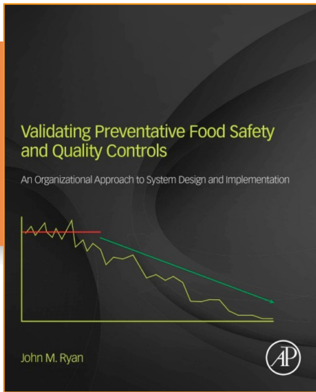
KEY FEATURES

- Provides a holistic view of the interactions between novel processing techniques and food components
- Explains how innovative techniques, such as non-thermal, nano-encapsulation, waste recovery, and novel extraction and processing methods impact the nutritional value of ingredients commonly used in functional food and nutraceutical products
- Covers food applications, shelf-life, and sensory characteristics

DESCRIPTION

Nutraceutical and Functional Food Components: Effects of Innovative Processing Techniques presents the latest information on the chemistry, biochemistry, toxicology, health effects, and nutrition characteristics of food components and the recent trends and practices that the food industry (e.g. the implementation of non-thermal technologies, nanoencapsulation, new extraction techniques, and new sources, like by-products, etc.) has adopted.

This book fills the gap in knowledge by denoting the impact of recent food industry advances in different parameters of food components (e.g. nutritional value, physical and chemical properties, bioavailability and bioaccessibility characteristics) and final products (e.g. applications, shelf-life, sensory characteristics).



Validating Preventive Food Safety and Quality Controls

An Organizational Approach to System Design and Implementation

John M. Ryan Ryan Systems, Inc. Palm Bay, FL, USA

ISBN: 978-0-12-810994-6

PUB DATE: January 2017

FORMAT: Paperback

PAGES: c. 330

TRIM: 7.5w x 9.25h

AUDIENCE

Food safety practitioners, managers, professionals/corporate executives and food safety auditors across the food supply chain involved in human and animal foods, import/export trade practitioners, international food safety organizations needing reliable information resources, consultants, training organizations, universities and lecturers on food safety

Understand how the new Food Safety Modernization Act rules will impact your business and how to implement them successfully

KEY FEATURES

- Presents ways to learn how to improve control over suppliers and includes strategies to evaluate food risk and supplier performance
- Provides a review of basic FSMA rule requirements
- Prepares your business to comply with changing food safety and quality standards and audits

DESCRIPTION

Food Safety Modernization Act: Preventive Food Safety Controls Design and Implementation is a how-to-guide for food industry personnel providing essential preventive control system guidance to help design and implement scientifically verifiable food safety controls in food processes. This book includes proven tools and techniques to move positively towards the new preventive control challenges that the food industry is facing, and helps implement compliance strategies to adhere to the food safety and modernization act requirements.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Foodborne Diseases, 3e

Edited by: ***Christine ER Dodd*** Department Chair of Food Science, School of Biosciences, University of Nottingham, UK
Tim Grant Aldsworth Senior Lecturer in Biotechnology, Professor of Microbiology, Department of Applied Sciences and Health, Faculty of Health and Life Sciences, Coventry University, Priory, Coventry, UK
Richard Stein Research Scientist, Department of Biochemistry and Molecular Pharmacology, New York University, NY, USA

ISBN: 978-0-12-385007-2

PREVIOUS EDITION ISBN: 9780121765583

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 532

TRIM: 7.5w x 9.25h

AUDIENCE

Researchers and scientists in research institutions, public health organizations and food and agricultural organizations; academics and students at national and international universities

The updated and expanded third edition of this bestselling reference continues to offer an exceptional foundation for understanding and managing foodborne diseases and illnesses as well as preventing and controlling outbreaks

"Provides an update of knowledge regarding infectious and toxic food pathogens. It is intended as a reference for readers concerned about the global impact of foodborne diseases." **--Food Science and Technology Abstracts, 2004**

"I unequivocally recommend this book to be available in schools and institutions concerned with food safety. Graduate and undergraduate students, and professionals involved in areas such as epidemiology, food industry and catering, and those whose major responsibility is to dictate the government policies of food protection, especially in developing countries, would take advantage of the updated content, structure and easily readable presentation of this book." --**Dr. Eduardo Fernandez Escartín, Professor of Graduate Research in Food Safety, Autonomous University of Querétaro, Mexico**

KEY FEATURES

- Presents principles in disease processes in foodborne illness
- Includes hot-topic discussions such as the impact of nanotechnology on food safety
- Provides in-depth description of our current understanding of the infectious and toxic pathogens associated with food
- Presents cutting-edge research on epigenetics, antimicrobial resistance, and intervention technologies

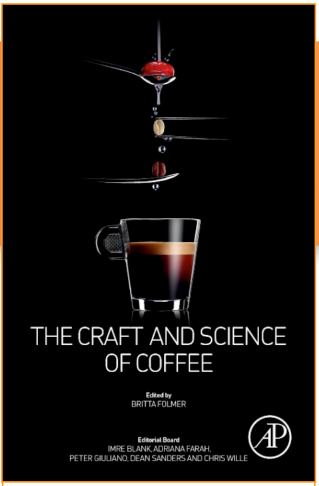
DESCRIPTION

Foodborne Diseases, Third Edition, covers the ever-changing complex issues that have emerged in the food industry over the past decade. This exceptional volume continues to offer broad coverage that provides a foundation for a practical understanding of diseases and to help researchers and scientists manage foodborne illnesses and prevent and control outbreaks. It explains recent scientific and industry developments to improve awareness, education, and communication surrounding foodborne disease and food safety.

Foodborne Diseases, Third Edition, is a comprehensive update with strong new topics of concern from the past decade. Topics include bacterial, fungal, parasitic, and viral foodborne diseases (including disease mechanism and genetics where appropriate), chemical toxicants (including natural intoxicants and bio-toxins), risk-based control measures, and virulence factors of microbial pathogens that cause disease, as well as epigenetics and foodborne pathogens. Other new topics include nanotechnology, bioterrorism and the use of foodborne pathogens, antimicrobial resistance, antibiotic resistance, and more.

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The Craft and Science of Coffee

Edited by: ***Britta Folmer*** Nestle Research Center, Lausanne, Switzerland

ISBN: 978-0-12-803520-7

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 526

TRIM: 6w x 9h

AUDIENCE

Those working in industry (including R&D, quality control, the farmer to the trader and the barista) seeking a deeper understanding on coffee while still recognizing their own skills and know-how

Understanding, appreciating and integrating the full value chain of coffee production

KEY FEATURES

- Present coffee from Farm to Frappe
- Addresses agricultural and production practices, sustainability, social impact of coffee production and consumer acceptability
- Integrates research and real-world practices for applicable understanding and appreciation

DESCRIPTION

The Art and Science of Coffee presents the full scope of the coffee value chain, from the tree to the consumer in a unique structure providing perspective that combines the academic and the practical aspects of coffee from production to consumption.

To achieve this, co-authorship for each chapter combines experts from academia and industry, giving an overview of scientific literature and the academic vision, and it shows how this knowledge applies in practical situations and how science is of value to improve practices and processes.

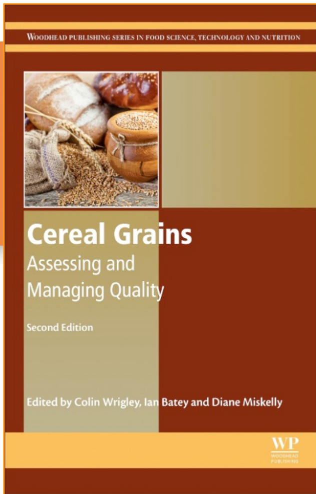
The Art and Science of Coffee guides the reader through every step of coffee production, starting at the farmer and the agricultural practices and the post-harvest processes and the influence on quality and concluding with the consumer and product acceptability measures.

The book is the most complete reference available for the coffee value chain.

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Cereal Grains, 2e

Assessing and Managing Quality

Edited by: ***C Wrigley*** QAAFI, University of Queensland, Brisbane, QLD, Australia
Ian L Batey CSIRO, Food and Nutritional Sciences Division, QLD, Australia
Diane Miskelly Westcott Consultants, Goulburn, Australia

WOODHEAD PUBLISHING

ISBN: 978-0-08-100719-8

PREVIOUS EDITION ISBN: 9781845699529

PUB DATE: January 2017

FORMAT: Hardback

PAGES: c. 772

TRIM: 6w x 9h

AUDIENCE

Staff involved in grain production and processing, Academics and researchers in cereal and grain sciences, Postgraduate students in agriculture and food science

A complete guide to cereal grains that not only provides a thorough update of the previous edition, but also details recent advances in the field

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Documents the latest research in cereal grains, from their nutraceutical and antioxidant traits, to novel detection methods
- Provides a complete and thorough update to the first edition, analyzing the range of major cereal species
- Presents detailed advice on the management of cereal quality at each stage of production and processing

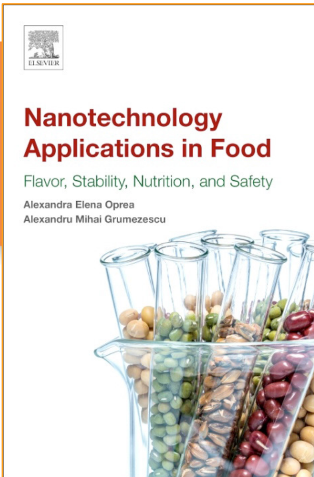
DESCRIPTION

Cereal Grains: Assessing and Managing Quality, Second Edition, provides a timely update to this key reference work. Thoroughly revised from the first edition, this volume examines the latest research and advances in the field. New chapters have been added on alternative grains, including ancient grains and pseudocereals, biosecurity, and industrial processing of grains, amongst others.

Quality and food safety are important throughout the value-addition chain, from breeding, production, harvest, storage, transport, processing, and marketing. At all stages, analysis is needed so that quality management can proceed intelligently. These considerations are examined for each of the major cereal species, including wheat (common and durum), rye and triticale, barley and oats, rice, maize (corn), pseudocereal species, sorghum, and the millets. Divided into five sections, the book analyses these for the range of cereal species before a final section summarizes key findings.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Nanotechnology Applications in Food

Flavor, Stability, Nutrition and Safety

Edited by: ***Alexandru Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania
Alexandra Elena Oprea Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science, Politehnica University of Bucharest, Romania
Gijs A. Kleter RIKILT, Business Unit Toxicology Bioassays & Novel Foods, Wageningen, Netherlands

ISBN: 978-0-12-811942-6
PUB DATE: January 2017
FORMAT: Paperback
PAGES: c. 380
TRIM: 7.5w x 9.25h

AUDIENCE
Professionals, Researchers, academic staff and students across all of food science

State-of-art research applications useful to advance nanotechnologies within the food industry

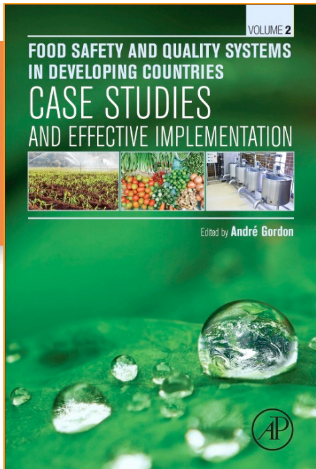
KEY FEATURES

- Includes how nanobiosensors are useful for the detection of foodborne pathogens
- Discusses applications of nanotechnology from flavor and nutrition to stability and safety in packaging
- Includes nano and microencapsulation, nanoemulsions, nanosensors, and nano delivery systems
- Identifies practical applications of nanoscience for use in industry today

DESCRIPTION
Nanotechnology Applications in Food: Flavor, Stability, Nutrition, and Safety is an up-to-date, practical applications-based reference that discusses the advantages and disadvantages of each application to help researchers, scientists, and bioengineers know what to do and what not to do to improve and facilitate the production of food ingredients and monitor food safety. It offers a broad spectrum of topics that are trending in the food industry such as pharmaceutical, biomedical and antimicrobial approaches in food and highlights current concerns regarding safety, regulations and restricted use of nanomaterials.

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Food Safety and Quality Systems in Developing Countries

Volume II: Case Studies of Effective Implementation

Edited by: ***Andre Gordon*** Managing Director, Technological Solutions Limited, Jamaica

ISBN: 978-0-12-801226-0

PUB DATE: December 2016

FORMAT: Hardback

PAGES: c. 310

TRIM: 6w x 9h

AUDIENCE

Food safety practitioners, regulators around the world; trade practitioners, international trade lawyers, exporters in developing countries (globally), buyers interested in imports from developing countries, international organizations, universities and lecturers on food safety, food export trading house businesses; Consultants, Food Science students, agriculture students

Provides pertinent information related to pressing global problems aligning with food safety, food security, governance, environment, and sustainable development in an age of globalization, covering the application of science, the transformation of production systems, regulatory underpinnings, and trade and marketing considerations

KEY FEATURES

- Provides comprehensive information on Blighia sapida, covering its agronomy, geographic antecedents, food science, production, biochemistry, toxicity, analytical determination, pathology of the attendant illness, application of risk assessment, risk analysis, and mitigation strategies for the implementation of food safety
- Offers different strategies to handle specific SPS and TBTs which affect food exports
- Presents how to address market access issues and how to effectively implement risk and hazard mitigation strategies

DESCRIPTION

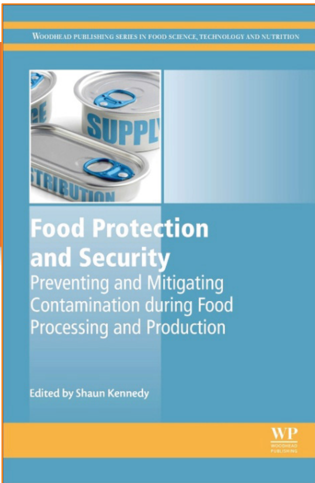
Food Safety and Quality in Developing Countries, Volume II: Case Studies of Effective Implementation examines the scientific, trade, organizational, national infrastructural, and systems implementation aspects of successfully exporting processed traditional foods from developing countries to developed country markets.

It uses the story of Jamaica's enigmatic national fruit, the ackee, as the main example to explore concerns of risk analysis and management and toxicology, also discussing analytical approaches in processing that ensure food safety and the regulatory aspects/issues of safety.

The book also covers the application of science, the transformation of production systems, regulatory underpinnings, and trade and marketing considerations of a traditional product as an example of overcoming market access challenges within established trading systems. It represents the only book that provides a comprehensive, case study-based insight into trade and market access options for traditional export products from developing country markets.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Food Protection and Security

Preventing and Mitigating Contamination during Food Processing and Production

Edited by: ***S Kennedy*** Associate Professor, Veterinary Population Medicine, University of Minnesota, USA

WP WOODHEAD PUBLISHING

ISBN: 978-1-78242-251-8

PUB DATE: November 2016

FORMAT: Hardback

PAGES: c. 344

TRIM: 6w x 9h

AUDIENCE

Technical/quality/safety managers and safety personnel in food production and processing; food producers; retailers; postgraduate students and academics with a research interest in this area

Covering all branches of food and beverage protection, this volume offers a comprehensive guide for food producers, retailers, and academics

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Explores the need for food protection, from natural disasters to contamination in food processing facilities
- Examines techniques used to detect contaminants in food, such as microbiological testing and fingerprinting
- Provides key ways to address food contamination issues

DESCRIPTION

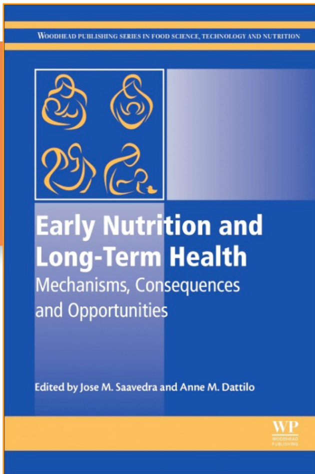
Food Protection and Security: Preventing and Mitigating Contamination during Food Processing and Production presents the latest information on our need to protect our food supply from accidental contamination, economically motivated adulteration, and contamination with intent to harm (bioterrorism or agro-terrorism).

This book covers all three branches of food protection, providing a comprehensive overview of the methods and strategy involved. Part one covers the need for food protection, looking at potential hazards in the production, processing, and supply chain. Part two looks at detection methods for contaminants in food, with the final section addressing food contamination incidents and prevention and response strategies.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Early Nutrition and Long-Term Health

Mechanisms, Consequences, and Opportunities

Edited by: ***Jose M Saavedra*** The Johns Hopkins University School of Medicine, USA
Anne Dattilo Associate Director, Nutrition Science, Nestlé Nutrition, USA

WOODHEAD PUBLISHING

This in-depth volume introduces how early-life nutrition relates to function programming, covering infant growth and cognitive development and the effects of early-life nutrition on specific noncommunicable diseases and on long-term general health

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100168-4
PUB DATE: December 2016
FORMAT: Hardback
PAGES: c. 568
TRIM: 6w x 9h

AUDIENCE

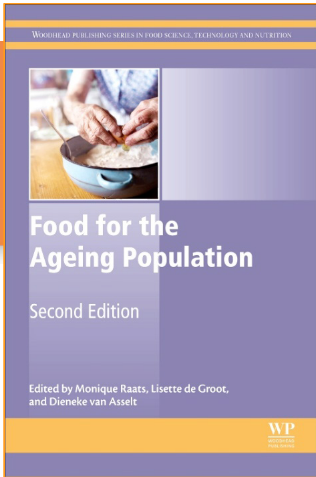
Paediatricians and healthcare professions with interest in nutrition; clinical and research dietitians and nutritionists; early and young child feeding specialists and educators; consultants and professionals working in food, nutrition, and health related industry and organizations.

KEY FEATURES

- Examines the relation between early life nutrition and long-term health
- Covers the mechanistic aspects of nutritional programming and its impact on risk of chronic non-communicable diseases
- Reviews associations between infant and child diet and its effect on growth, development, cognition and later occurrence of cardiovascular diseases, allergies, metabolic conditions and obesity

DESCRIPTION

The nutrition of an individual during gestation and the first two years of life—the first 1,000 days—sets the stage for lifelong health. Nutrition quality and quantity in this period can influence the risk of developing diseases that constitute today's epidemics. Early-life nutrition can program the body's tissues, organ structure and function, and metabolic and immunologic responses. These factors impact growth, development and cognition, and the risk of cardiovascular diseases, allergies and obesity. The first part of ***Early Nutrition and Long-Term Health*** examines the mechanisms by which early nutrition affects the risk of developing these conditions. The second part of this book reviews specific non-communicable diseases (NCDs) associated with early nutrition. The third part discusses the effects of nutritional programming from fetal life to toddlerhood. Prevention of over- or undernutrition in early life, rather than dietary, behavioral or therapeutic interventions in later life, is likely to have a greater return on society's investment in coping with the modern epidemic of NCDs.



Food for the Ageing Population, 2e

Edited by: ***M M Raats*** Professor and Director of the Food, Consumer Behaviour and Health Research Centre, University of Surrey, UK
Lisette De Groot Professor in Nutrition and Ageing, Wageningen University, The Netherlands
Dieneke van Asselt Medical Doctor specializing in Geriatric Medicine, Medical Centre Leeuwarden, The Netherlands

WOODHEAD PUBLISHING

Covers the characteristics of the ageing population as food consumers, the role of nutrition, and the design of foods and services for the elderly

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100348-0
PREVIOUS EDITION ISBN: 9781845691936
PUB DATE: December 2016
FORMAT: Hardback
PAGES: c. 380
TRIM: 6w x 9h

AUDIENCE

Researchers involved in both developing foods and understanding the role of food in an ageing population, in addition to policy makers who are involved in the provision of food for the elderly and geriatric medical professionals

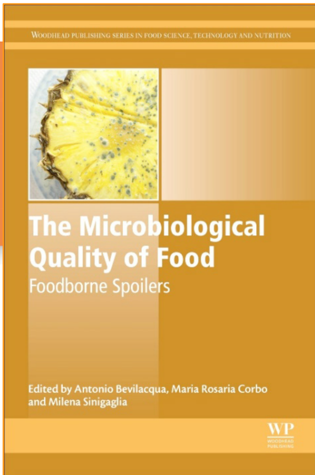
KEY FEATURES

- Covers the topic of food for an ageing population more broadly than any other book on the market
- Presents a thoroughly revised and updated edition of a very popular and well regarded book
- Contains new chapters on the implementation of food-related interventions among the elderly population and their relationship to policymakers

DESCRIPTION

Food for the Ageing Population, Second Edition, is a unique volume that reviews the characteristics of the ageing population as food consumers, the role of nutrition in healthy ageing, and the design of food products and services for the elderly. The first section of the book discusses the older population as consumers of food and beverages, while the second section covers the extension of functionality into later life. The final section highlights tactics on how to develop food products and services for older people.

Fully updated and revised from the first edition, the book covers advances in various fields, introducing a number of new chapters, including, amongst others, topics on the economic determinants of diet in older adults, public policy and older people's diets, and interventions to support healthy eating in later life.



The Microbiological Quality of Food

Foodborne Spoilers

Edited by: ***Antonio Bevilacqua*** Department of the Science of Agriculture, Food and Environment, University of Foggia, Italy
Maria Rosaria Corbo Department of the Science of Agriculture, Food and Environment, University of Foggia, Italy
Milena Sinigaglia Department of the Science of Agriculture, Food and Environment, University of Foggia, Italy

WOODHEAD PUBLISHING

ISBN: 978-0-08-100502-6

PUB DATE: November 2016

FORMAT: Hardback

PAGES: c. 310

TRIM: 6w x 9h

AUDIENCE

Quality control and assurance professionals in the food industry, management in food companies, regulators in the food industry, in addition to postgraduate students and academics

Presents new coverage of food spoilage, an essential component in determining the shelf-life and quality of food and their impact on consumer acceptability

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Provides in-depth coverage of the different spoilers which cause the deterioration of foods, including less common spoilers not covered in other publications
- Includes dedicated chapters covering the spoilage of specific products, making this book ideal for those working in the food industry
- Presents a framework for future research in the area of foodborne spoilers

DESCRIPTION

The Microbiological Quality of Food: Foodborne Spoilers specifically addresses the role of spoilers in food technology and how they affect the quality of food. Food spoilers represent a great challenge in food quality, determining the shelf-life of many products as they impact consumer acceptability of taste, texture, aroma, and other perceptions.

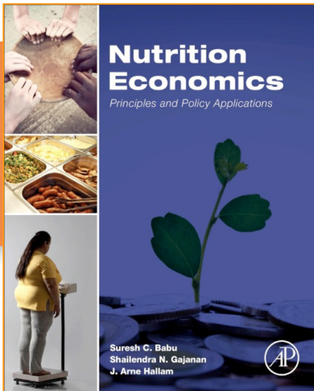
Divided into four sections, the first section defines microbial spoilage of food, with special emphasis on methods for the evaluation of spoiling phenomena and the status of their regulatory framework, examining both existing regulations and possible gaps. The second section examines spoiling microorganisms, covering a range of common spoilage microorganisms, including pseudomonas, yeasts, and molds and spore formers, as well as less-common spoilers, including lactic acid bacteria and specific spoilage organisms in fish.

The third section highlights spoiling phenomena within certain food types. Chapters cover dairy, fish, meat, and vegetables, and other products. The final section investigates emerging topics which point to future trends in the research of food spoilers. There is insight into microorganisms resistant to preservation, the role of biofilms in food quality, and the link between food safety and food spoilage, with a special emphasis on certain spoiling microorganisms which could be opportunistic pathogens. Written by an international team of leading authors, this book provides state-of-the-art coverage of this topic, which is essential to the shelf-life and quality of food.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Nutrition Economics

Principles and Policy Applications

Suresh Babu Int'l Food Policy Research Institute, Washington, DC, USA
S.N. Gajanan Department of Economics, Department of Business Management and Education, University of Pittsburgh, Bradford, USA
J. Arne Hallam Department of Economics and College of Liberal Arts and Sciences, Iowa State University, Iowa, USA

ISBN: 978-0-12-800878-2

PUB DATE: November 2016

FORMAT: Hardback

PAGES: c. 386

TRIM: 7.5w x 9.25h

AUDIENCE

Advanced graduate students and researchers in biology and agriculture; also, technical and development officials, extension staff, and policy planners

This synthesized, multidisciplinary examination of the effective development of nutritional policy provides criteria for consideration as new policies and regulations are developed

KEY FEATURES

- Connects the direct and indirect impacts of economic policy on nutritional status
- Provides practical insights into the analysis of nutrition policies and programs that will produce meaningful results
- Presents a hands-on approach on how to apply economic theory to the design of nutritional policies and programs

DESCRIPTION

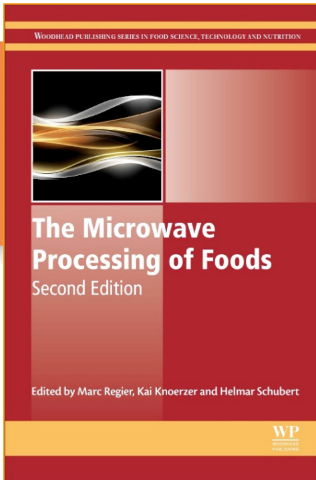
Nutrition Economics: Principles and Policy Applications establishes the core criteria for consideration as new policies and regulations are developed, including application-based principles that ensure practical, effective implementation of policy. From the economic contribution of nutrition on quality of life, to the costs of malnutrition on society from both an individual and governmental level, this book guides the reader through the factors that can determine the success or failure of a nutrition policy.

Written by an expert in policy development, and incorporating an encompassing view of the factors that impact nutrition from an economic standpoint (and their resulting effects), this book is unique in its focus on guiding other professionals and those in advanced stages of study to important considerations for correct policy modeling and evaluation.

As creating policy without a comprehensive understanding of the relevant contributing factors that lead to failure is not an option, this book provides a timely reference.

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The Microwave Processing of Foods, 2e

Edited by: ***M Regier*** Professor, University of Karlsruhe, Germany
Kai Knoerzer Senior Research Scientist, Food and Nutrition Flagship, CSIRO, Australia
Helmar Schubert Professor at the Department of Food Process Engineering, Karlsruhe Institute of Technology (KIT), Germany

WOODHEAD PUBLISHING

ISBN: 978-0-08-100528-6

PREVIOUS EDITION ISBN: 9781855739642

PUB DATE: November 2016

FORMAT: Hardback

PAGES: c. 448

TRIM: 6w x 9h

AUDIENCE

R&D staff, researchers, Product developers, students and university teaching staff.

Including new chapters on microwave-assisted frying, microbial inactivation, and disinfestation, this completely revised edition covers the basic principles of microwave technology and current and emerging research trends for future development

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

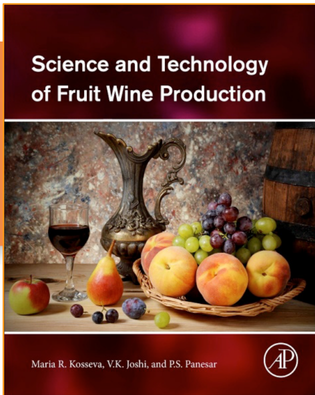
- Provides thoroughly up-to-date information on the basics of microwaves and microwave heating
- Discusses the main factors for the successful application of microwaves and the main problems that may arise
- Includes current and potential future applications for real-world application as well as new research and advances
- Includes new chapters on microwave-assisted frying, microbial inactivation, and disinfestation

DESCRIPTION

The Microwave Processing of Foods, *Second Edition*, has been updated and extended to include the many developments that have taken place over the past 10 years. Including new chapters on microwave assisted frying, microwave assisted microbial inactivation, microwave assisted disinfestation, this book continues to provide the basic principles for microwave technology, while also presenting current and emerging research trends for future use development. Led by an international team of experts, this book will serve as a practical guide for those interested in applying microwave technology.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Science and Technology of Fruit Wine Production

Edited by: ***Maria Kosseva*** University of Nottingham Ningbo Campus (UNNC), China
V.K. Joshi Former Professor and HeadDepartment of Food Science,Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan, Himachal Pradesh, India
P.S. Panesar Sant Longowal Institute of Engineering & Technology, Longowal, Punjab, India

This comprehensive resource covers the production of wines from non-grape fruits including their composition, chemistry, microbiology, quality of raw material, medicinal values, wine quality factors, bioreactor technology, production, optimization, standardization, preservation, and evaluation of different wines and brandies.

ISBN: 978-0-12-800850-8
PUB DATE: November 2016
FORMAT: Hardback
PAGES: c. 728
TRIM: 7.5w x 9.25h

AUDIENCE

Students and researchers in enology, food science, postharvest technology, food biotechnology, food microbiology and those in industry-related R&D

KEY FEATURES

- Focuses on producing non-grape wines, highlighting their flavor, taste, and other quality attributes, including their antioxidant properties
- Provides a single-volume resource that consolidates the research findings and developed technology employed to make wines from non-grape fruits
- Explores options for reducing post-harvest losses, which are especially high in developing countries
- Stimulates research and development efforts in non-grape wines

DESCRIPTION

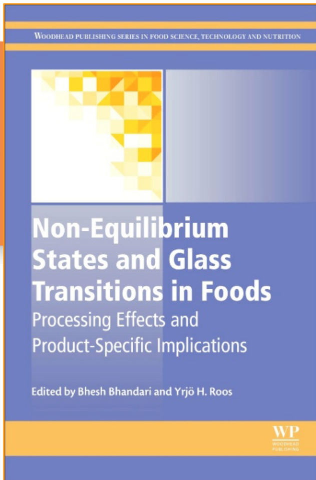
Science and Technology of Fruit Wine Production includes introductory chapters on the production of wine from fruits other than grapes, including their composition, chemistry, role, quality of raw material, medicinal values, quality factors, bioreactor technology, production, optimization, standardization, preservation, and evaluation of different wines, specialty wines, and brandies.

Wine and its related products have been consumed since ancient times, not only for stimulatory and healthful properties, but also as an important adjunct to the human diet by increasing satisfaction and contributing to the relaxation necessary for proper digestion and absorption of food. Most wines are produced from grapes throughout the world, however, fruits other than grapes, including apple, plum, peach, pear, berries, cherries, currants, apricot, and many others can also be profitably utilized in the production of wines.

The major problems in wine production, however, arise from the difficulty in extracting the sugar from the pulp of some of the fruits, or finding that the juices obtained lack in the requisite sugar contents, have higher acidity, more anthocyanins, or have poor fermentability. The book demonstrates that the application of enzymes in juice extraction, bioreactor technology, and biological de-acidification (MLF bacteria, or de-acidifying yeast like schizosaccharomyces pombe, and others) in wine production from non-grape fruits needs serious consideration.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Non-Equilibrium States and Glass Transitions in Foods

Processing Effects and Product-Specific Implications

Edited by: ***Bhesh Bhandari*** Professor, University of Queensland, Australia
Yrjö H. Roos Professor, School of Food & Nutritional Sciences, University College Cork, Ireland

WOODHEAD PUBLISHING

ISBN: 978-0-08-100309-1

PUB DATE: December 2016

FORMAT: Hardback

PAGES: c. 464

TRIM: 6w x 9h

AUDIENCE

Academics working in the field of food quality, particularly those with an interest in food processing and its effects on product shelf life, and industry professionals who wish to gain a solid understanding of glass transitions in food and methods to control them

Presents the tactics needed to understand and control non-equilibrium states and glass transitions in food, an essential element for shelf-life and quality

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Provides the only book on the market that covers non-equilibrium states and glass transitions in food from a practical standpoint
- Presents food industry professionals in the area of food quality with essential information on the effects of glass transitions and non-equilibrium states on the shelf life of specific products
- Edited by global leaders in glass transition technology in foods

DESCRIPTION

Non-equilibrium States and Glass Transitions in Foods: Processing Effects and Product Specific Implications presents the tactics needed to understand and control non-equilibrium states and glass transitions in food, an essential element in maintaining the shelf-life and quality of foods.

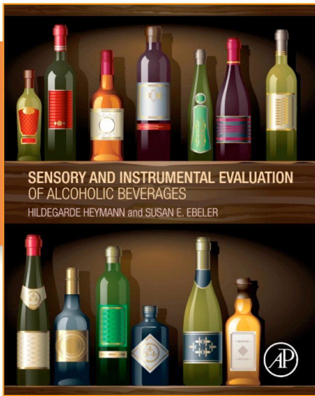
After brief introductory chapters introduce the science behind non-equilibrium states and glass transitions in foods, the book details how glass transition temperature is affected by composition and the ways it influences processability and physico-chemical changes during the storage of foods, also exploring how these effects can be controlled.

The second section looks at individual foods, highlighting the implications of non-equilibrium states and glass transitions within these foods. Maintaining and improving the quality of food is of upmost importance to food companies who have to ensure that the shelf life of their products is as long as possible.

A large amount of research has been performed into glass transitions in food over the last few years, however there has not been a comprehensive review. This book fills that gap.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Sensory and Instrumental Evaluation of Alcoholic Beverages

Hildegarde Heymann Professor, Department of Viticulture and Enology, University of California – Davis, USA
Susan E. Ebeler Professor and Chemist, Department of Viticulture and Enology, University of California – Davis, USA

By introducing the value of sensory analysis to the alcoholic beverage industry, this book investigates its value with highlighted case studies and related findings

ISBN: 978-0-12-802727-1
PUB DATE: November 2016
FORMAT: Hardback
PAGES: c. 266
TRIM: 7.5w x 9.25h

AUDIENCE

Sensory scientists working in Alcoholic Beverage industry, Alcoholic Beverage scientists working with sensory science, R&D and Sensory Scientists in related areas

KEY FEATURES

- Uniquely focused on alcoholic beverages and their assessment
- Includes real-world information for practical application
- Presents a full range of methodologies, providing key comparative insights

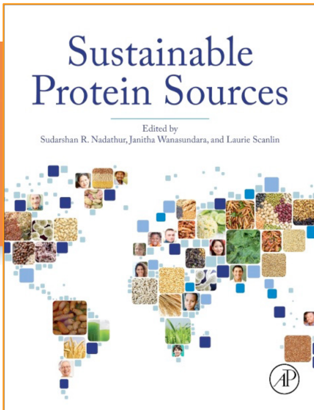
DESCRIPTION

Sensory and Instrumental Evaluation of Alcoholic Beverages introduces the value of sensory analysis to the alcoholic beverage industry through the detailed lens of sensory analysis techniques. From traditional methods, to the most modern rapid methods, this book presents comprehensive insights and applications.

Analytical methods for identifying and assessing the flavor compounds present in the beverages are included that address both volatile and non-volatile techniques, along with rapid methods of assessment. Case studies highlight the testing of different types of alcoholic beverages running the entire gamut of methods and the appropriate subset of methods. Also included is information of data analyses with the appropriate R-codes to allow practitioners to use the book as a handbook to analyze their own data.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Sustainable Protein Sources

Edited by: ***Sudarshan Nadathur*** Givaudan, Cincinnati, OH, USA
Janitha P. D. Wanasundara Agriculture and Agri-Food Canada, Saskatoon Research and Development Centre
Laurie Dr. Scanlin Affiliate Professor, Colorado State University, Fort Collins, CO, USA

ISBN: 978-0-12-802778-3
PUB DATE: October 2016
FORMAT: Hardback
PAGES: c. 434
TRIM: 8.5w x 10.875h

AUDIENCE

Food scientists, product managers, sustainability researchers, nutrition researchers, public health researchers, policy makers

A first reference on dietary proteins that covers the land, water, and energy usage inputs, nutritive outputs, and food applications of plant and other non-meat proteins

KEY FEATURES

- Introduces the need to shift current animal-derived protein sources to those that are more plant-based
- Presents a valuable compendium on plant and alternate protein sources covering land, water, and energy uses for each type of protein source
- Discusses nutritive values of each protein source and compares each alternate protein to more complete proteins
- Provides an overview of production, including processing, protein isolation, use cases, and functionality
- Presents solutions to challenges, along with taste modulation
- Focuses on non-animal derived proteins
- Identifies paths and choices that require consumer and policymaker debate and action

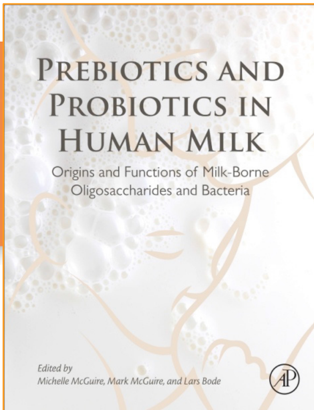
DESCRIPTION

Protein plays a critical role in human nutrition. Although animal-derived proteins constitute the majority of the protein we consume, plant-derived proteins can satisfy the same requirement with less environmental impact. *Sustainable Protein Sources* allows readers to understand how alternative proteins such as plant, fungal, algal, and insect protein can take the place of more costly and less efficient animal-based sources.

Sustainable Protein Sources presents the various benefits of plant and alternative protein consumption, including those that benefit the environment, population, and consumer trends. The book presents chapter-by-chapter coverage of protein from various sources, including cereals and legumes, oilseeds, pseudocereals, fungi, algae, and insects. It assesses the nutrition, uses, functions, benefits, and challenges of each of these proteins. The book also explores opportunities to improve utilization and addresses everything from ways in which to increase consumer acceptability, to methods of improving the taste of products containing these proteins, to the ways in which policies can affect the use of plant-derived proteins. In addition, the book delves into food security and political issues which affect the type of crops that are cultivated and the sources of food proteins. The book concludes with required consumer choices such as dietary changes and future research ideas that necessitate vigorous debate for a sustainable planet.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Prebiotics and Probiotics in Human Milk

Origins and Functions of Milk-Borne Oligosaccharides and Bacteria

Edited by: ***Michelle McGuire*** Associate Professor, School of Biological Sciences, Washington State University, USA
Mark A McGuire Professor, Animal and Veterinary Science, University of Idaho, USA
Lars Bode Lars Bode, Associate Professor of Pediatrics, Director of the Mother-Milk-Infant Center of Research Excellence (MoMI CoRE), University of California San Diego, La Jolla, California, USA

ISBN: 978-0-12-802725-7
PUB DATE: October 2016
FORMAT: Hardback
PAGES: c. 486
TRIM: 8.5w x 10.875h

AUDIENCE

Academic researchers, graduate students, industry researchers, public health experts interested in human milk and maternal/infant nutrition/health; clinicians with targeted interests in infant health; food developers working on infant formula and on dairy/other products containing prebiotics and probiotics

Through a presentation of state-of-the-science information on the origins and functions of human milk oligosaccharides and bacteria, this book demonstrates the important relationship between them

KEY FEATURES

- Presents a reader-friendly, highly-curated text that includes a review of the literature related to origins, variability, metabolism, and functions of HMO and human milk bacteria
- Discusses the potential implications of HMO and milk microbiota to industry – for instance, utilization in the dairy industry and infant formula
- Consists of learning aids, such as pull quotes, critical summary statements, and an extensive list of published literature throughout

DESCRIPTION

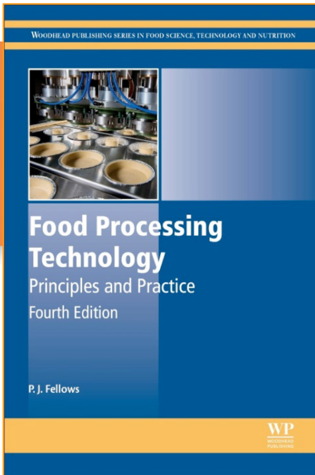
Prebiotics and Probiotics in Human Milk: Origins and Functions of Milk-Borne Oligosaccharides and Bacteria provides a comprehensive, yet approachable, treatise on what is currently known about the origins and functions of human milk oligosaccharides (HMO), the complex sugars in milk that are not digested by the infant.

The book examines how HMOs and bacteria in human milk may function independently and coordinately to influence both maternal and infant health. Human milk is the only food "designed" specifically to nourish humans, indeed representing the essence of a perfect "functional food." And although researchers have been studying its composition for decades, surprisingly little is really understood about the origins and functions of its myriad components, an area that is especially true for HMOs and bacteria.

This book provides a thorough review of the newest research on these inter-related milk constituents as written by a team of experts from both academia and industry who actively conduct HMO and human milk microbiome research as they endeavor to apply this new knowledge to infant nutrition. Each chapter provides objective rationale for what research is still needed in this rapidly evolving area, also discussing the challenges and opportunities faced by the industry in adding HMO and microbes to infant food products.

This book is a valuable resource for nutrition researchers focused on infant nutrition, food scientists and product developers working on infant formula, and clinicians interested in broadening their understanding of the benefits of human milk for infants.

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Food Processing Technology, 4e

Principles and Practice

P J Fellows Consultant, UK

WOODHEAD PUBLISHING

ISBN: 978-0-08-101907-8

PREVIOUS EDITION ISBN: 9781845692162

PUB DATE: October 2016

FORMAT: Hardback

PAGES: c. 1128

TRIM: 6w x 9h

AUDIENCE

Undergraduate and postgraduate students in food technology and food science. Students/lecturers in biotechnology; reference book for all professionals in the food industry

Written in accessible language, this book provides comprehensive discussions suitable for lecturers, students, and professionals studying and working in food processing

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Updated edition completely revised with new developments on all the processing stages and aspects of food industry management not otherwise considered (e.g. financial management, marketing, food laws, and food industry regulation), and more
- Introduces a range of processing techniques that are used in food manufacturing
- Explains the key principles of each process, including the equipment used and the effects of processing on micro-organisms that contaminate foods
- Describes post-processing operations, including packaging and distribution logistics
- Includes extra textbook elements, such as videos and calculations slides, in addition to summaries of key points in each chapter

DESCRIPTION

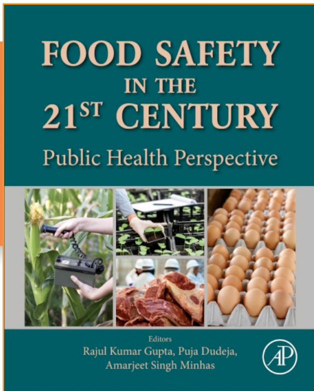
Food Processing Technology: Principles and Practice, Fourth Edition, has been updated and extended to include the many developments that have taken place since the third edition was published. The new edition includes an overview of the component subjects in food science and technology, processing stages, important aspects of food industry management not otherwise considered (e.g. financial management, marketing, food laws and food industry regulation), value chains, the global food industry, and over-arching considerations (e.g. environmental issues and sustainability).

In addition, there are new chapters on industrial cooking, heat removal, storage, and distribution, along with updates on all the remaining chapters. This updated edition consolidates the position of this foundational book as the best single-volume introduction to food manufacturing technologies available, remaining as the most adopted standard text for many food science and technology courses.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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9 780081 019078



Food Safety in the 21st Century

Public Health Perspective

Edited by: ***Puja Dudeja*** Assistant Professor, Armed Forces Medical College, Pune, India
Rajul Kumar Gupta Professor, Community Medicine, Army College of Medical Sciences, New Delhi, India
Amarjeet Singh Minhas Department of Community Medicine,School of Public Health, Postgraduate Institute of Medical Education and Research, Chandigarh, India

ISBN: 978-0-12-801773-9

PUB DATE: October 2016

FORMAT: Paperback

PAGES: c. 584

TRIM: 7.5w x 9.25h

AUDIENCE

Food safety professionals (managers, etc.); food handlers; government and policy makers; Food business operators; Graduates in Agriculture/ Food Science or allied disciplines contemplating a career in Food Safety and Quality Management

A practical scientific approach for food industry professionals who need best practices on how to make informed decisions regarding food safety

KEY FEATURES

- Provides the latest research and developments in the field of food safety
- Incorporates practical, real-life examples for risk reduction
- Includes specific aspects of food safety and the risks associated with each sector of the food chain, from food production, to food processing and serving
- Describes various ways in which epidemiologic principles are applied to meet the challenges of maintaining a safe food supply in India and how to reduce disease outbreaks
- Presents practical examples of foodborne disease incidents and their root causes to highlight pitfalls in food safety management

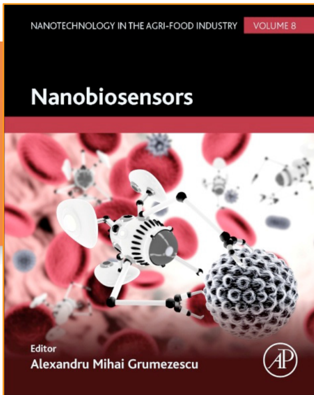
DESCRIPTION

Food Safety in the 21st Century: Public Health Perspective is an important reference for anyone currently working in the food industry or those entering the industry. It provides realistic, practical, and very usable information about key aspects of food safety, while also systematically approaching the matter of foodborne illness by addressing the intricacies of both prevention and control.

This book discusses ways to assess risk and to employ epidemiological methods to improve food safety. In addition, it also describes the regulatory context that shapes food safety activities at the local, national, and international levels and looks forward to the future of food safety.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Nanobiosensors, Vol 8

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804301-1

PUB DATE: October 2016

FORMAT: Hardback

PAGES: c. 896

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, Researchers, academic staff and students across all of food science

As a comprehensive resource on nanotechnology in the agri-food industry, this book presents the principles and safety applications of biosensor nanotechnology

A Volume in the Nanotechnology in the Agri-Food Industry Series.

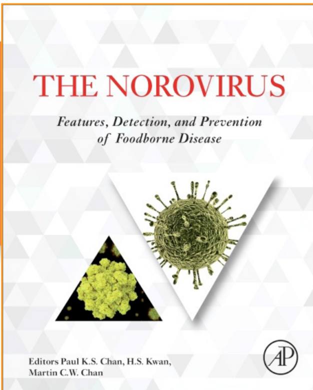
KEY FEATURES

- Includes the most up-to-date information on nanoparticles based biosensors and quantum dots for biological detection
- Provides application methods and techniques for research analysis for bacteriological detection and food testing
- Presents studies using analytical tools to improve food safety and quality analysis

DESCRIPTION

Nanobiosensors: Nanotechnology in the Agri-Food Industry, Volume 8, provides the latest information on the increasing demand for robust, rapid, inexpensive, and safe alternative technologies that monitor, test, and detect harmful or potentially dangerous foods. Due to their high sensitivity and selectivity, nanobiosensors have attracted attention for their use in monitoring not only biological contaminants in food, but also potential chemical and physical hazards.

This book offers a broad overview regarding the current progress made in the field of nanosensors, including cutting-edge technological progress and the impact of these devices on the food industry. Special attention is given to the detection of microbial contaminants and harmful metabolotes, such as toxins and hormones, which have a great impact on both humans and animal health and feed.



The Norovirus

Features, Detection, and Prevention of Foodborne Disease

Edited by: ***Paul K S Chan*** Department of Microbiology, The Chinese University of Hong Kong, China
Hoi Shan Kwan The School of Life Sciences, The Chinese University of Hong Kong, China
Martin C.W. Chan Department of Microbiology, Faculty of Medicine, The Chinese University of Hong Kong, China

ISBN: 978-0-12-804177-2

PUB DATE: October 2016

FORMAT: Paperback

PAGES: c. 214

TRIM: 7.5w x 9.25h

AUDIENCE

Food Safety Researchers, Food Microbiologists, Food Virologists, Government, Industry and Academia

A concise resource that fully analyzes mechanisms of the food-related pathogen to understand its relevance to food safety

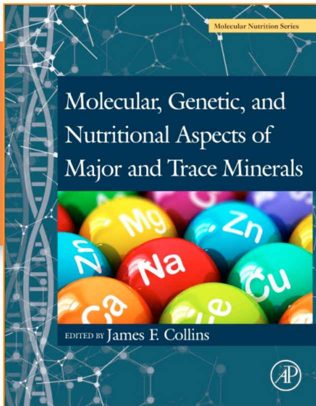
KEY FEATURES

- Provides detailed knowledge of food as a mode of transmission, of detection, and of the biology and impact of Norovirus
- Includes applications to other relevant strains of foodborne pathogens
- Presents foodborne disease outbreak case studies to enhance learning

DESCRIPTION

The Norovirus: Features, Detection and Prevention of Foodborne Disease is a unique and valuable reference for both researchers in industry and students who need to understand how this specific pathogen behaves in order to improve control of food as a transmission of this infectious biological agent.

The information in the book provides essential, specific information to help further understand potential new strains of the pathogen, offering detection analysis and prevention strategies of the pathogen to assist in combatting the spread of foodborne illness. Written by national and international experts in the field, this book will be a practical source of information for food scientists, food microbiologists, food technologists, food industry workers, public health workers, and students.



Molecular, Genetic, and Nutritional Aspects of Major and Trace Minerals

Edited by: ***James F Collins*** University of Florida, Gainesville, USA

A thorough reference on the nutritionally relevant minerals covering their molecular biology, basic functions, interactions, deficiencies and toxicities, and more

ISBN: 978-0-12-802168-2
PUB DATE: September 2016
FORMAT: Paperback
PAGES: c. 564
TRIM: 8.5w x 10.875h

AUDIENCE

Nutrition science and food science researchers, graduate students. Dieticians, health professionals, epidemiologists and public health professionals, students, graduates, post-graduates, lecturers, teachers, professors

KEY FEATURES

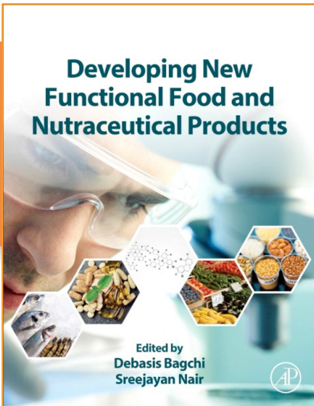
- Presents the only scientific reference to cover all of the nutritionally relevant essential major and trace minerals
- Provides a broad introductory chapter on each mineral to give readers valuable background and context
- Clarifies the cellular and molecular aspects of each mineral and its genetic and genomic aspects
- Includes coverage of all nutritionally relevant minerals—essential major trace minerals and ultra-trace minerals
- Underscores the important interactions between minerals so readers learn how metabolism of one mineral influences another

DESCRIPTION

Molecular, Genetic, and Nutritional Aspects of Major and Trace Minerals is a unique reference that provides a complete overview of the non-vitamin micronutrients, including calcium, copper, iodine, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium, and zinc.

In addition, the book covers the nutritional and toxicological properties of nonessential minerals chromium, fluoride and boron, and silicon and vanadium, as well as ultra-trace minerals and those with no established dietary requirement for humans. Users will find in-depth chapters on each essential mineral and mineral metabolism, along with discussions of dietary recommendations in the United States and around the world.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Developing New Functional Food and Nutraceutical Products

Edited by: ***Debasis Bagchi*** Department of Pharmacological and Pharmaceutical Sciences, University of Houston College of Pharmacy, TX, USA
Sreejayan Nair School of Pharmacy, University of Wyoming, Laramie, WY, USA

From concept to new product, this book presents the intricate aspects of innovation behind product development, standardization, manufacturing, quality control, and launch

ISBN: 978-0-12-802780-6

PUB DATE: September 2016

FORMAT: Hardback

PAGES: c. 512

TRIM: 8.5w x 10.875h

AUDIENCE

Food scientists, nutrition researchers in industry and academia; product developers, managers, and marketers

KEY FEATURES

- Examines key considerations in product development
- Provides a streamlined approach for product development
- Addresses manufacturing and quality control challenges
- Includes key lessons for a successful product launch and effective marketing

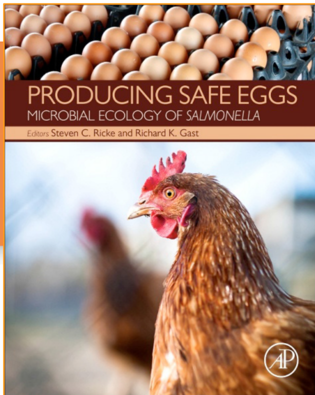
DESCRIPTION

Developing New Functional Food and Nutraceutical Products provides critical information from conceptualization of new products to marketing, aiming to present a solid understanding of the entire process through detailed coverage of key concepts, namely innovation, regulation, manufacturing, quality control, and marketing.

Chapters provide insights into market and competitive analysis, product design and development, intellectual property, ingredient sourcing, cost control, and sales and marketing strategies.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Producing Safe Eggs

Microbial Ecology of Salmonella

Edited by: ***Steven C Ricke*** Food Science Department, Division of Agriculture, University of Arkansas, Fayetteville, AR, USA
Richard K Gast Microbiologist and Research Leader, Egg Safety and Quality Research Unit, USDA Agricultural Research Service, Athens, GA, USA

This comprehensive book examines the problems of *Salmonella* and microbial contamination in commercial egg production, taking a holistic approach to discuss management and risk factors across the entire egg production process

ISBN: 978-0-12-802582-6

PUB DATE: September 2016

FORMAT: Hardback

PAGES: c. 436

TRIM: 7.5w x 9.25h

AUDIENCE

A and G, corporate, industry markets, industry professionals in food safety, food microbiology, food science, food production, food processing, government officials (USDA, FDA, etc.), grad students in agriculture and food science, food managers at food companies

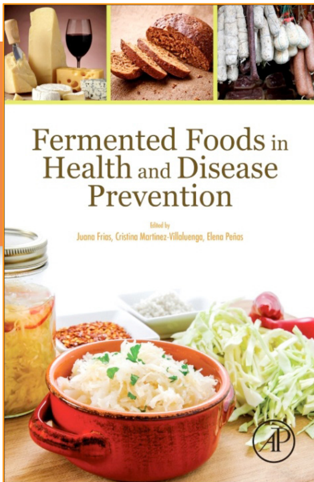
KEY FEATURES

- Includes pre- and post-harvest control measures to reduce microbial contamination and salmonella risks
- Presents hot topics regarding vaccination, egg-in-shell pasteurization, and other new technologies currently under development
- Provides risk assessment strategies for implementation in business operations
- Discusses management and risk factors across the entire egg production process, including practical applications to decrease disease and contaminated food products in poultry houses, processing plants, and retail businesses
- Offers a complete reference for anyone involved in the safe production of eggs and egg products in the food industry

DESCRIPTION

Producing Safe Eggs: Microbial Ecology of Salmonella takes the unique approach of interfacing problems of *Salmonella* and microbial contamination with commercial egg production. It presents in-depth information on microbial contamination, safety and control, physiology, immunology, neurophysiology, and animal welfare, which makes this book a complete reference for anyone involved in the safe production of eggs and egg products in the food industry.

This book discusses management and risk factors across the entire egg production process, including practical applications to decrease disease and contaminated food products in poultry houses, processing plants and retail businesses. It is an integral reference for food scientists, food safety and quality professionals, food processors, food production managers, and food business owners, as well as students in food science, safety, microbiology, and animal science.



Fermented Foods in Health and Disease Prevention

Edited by: ***Juana Frías*** Senior Research Scientist, Institute of Food Science, Technology and Nutrition, Spanish National Research Council, Madrid, Spain
Cristina Martínez-Villaluenga Research Scientist, Institute of Food Science, Technology and Nutrition, Spanish National Research Council, Madrid, Spain
Elena Peñas Elena Peñas BSc, PhD, Research Scientist, Spanish National Research Council, Institute of Food Science, Technology and Nutrition, Madrid, Spain

ISBN: 978-0-12-802309-9
PUB DATE: September 2016
FORMAT: Hardback
PAGES: c. 734
TRIM: 8.5w x 10.875h

AUDIENCE
food scientists, technologists, food processors, product developers, food industry workers, research scientists, nutrition researchers, health professionals

Presents the latest research data on fermented food products, their production, and their nutritional and health benefits

KEY FEATURES

- Provides a comprehensive review on current findings in the functional properties and safety of traditional fermented foods and their impact on health and disease prevention
- Identifies bioactive microorganisms and components in traditional fermented food
- Includes focused key facts, helpful glossaries, and summary points for each chapter
- Presents food processors and product developers with opportunities for the development of fermented food products
- Helps readers develop strategies that will assist in preventing or slowing disease onset and severity

DESCRIPTION

Fermented Foods in Health and Disease Prevention is the first scientific reference that addresses the properties of fermented foods in nutrition by examining their underlying microbiology, the specific characteristics of a wide variety of fermented foods, and their effects in health and disease. The current awareness of the link between diet and health drives growth in the industry, opening new commercial opportunities.

Coverage in the book includes the role of microorganisms that are involved in the fermentation of bioactive and potentially toxic compounds, their contribution to health-promoting properties, and the safety of traditional fermented foods. Authored by worldwide scientists and researchers, this book provides the food industry with new insights on the development of value-added fermented foods products, while also presenting nutritionists and dieticians with a useful resource to help them develop strategies to assist in the prevention of disease or to slow its onset and severity.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Food Packaging

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804302-8

PUB DATE: September 2016

FORMAT: Hardback

PAGES: c. 768

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, researchers, academic & government staff and students across all of food science, biotechnological, and engineering fields

The book presents tactics on barrier performance in packaging, using nanomaterials and nanocomposites to enhance food preservation quality and food safety

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

- Includes fabrication techniques, such as nanofiber films, nanocoating, nanocompositing, multi-layered structures, and layer-by-layer nanoassemblies based on synthetic and bio-based polymers
- Presents the latest information on new biodegradeable materials using fabrication of new high barrier plastics to enhance research
- Provides examples of risk assessment for nanomaterials for food safety and the benefits of antimicrobial food packaging

DESCRIPTION

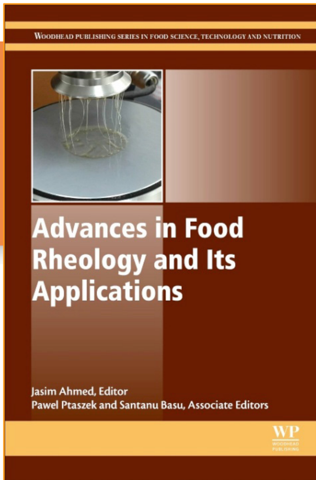
Food Packaging: Nanotechnology in the Agri-Food Industry, Volume 7, focuses on the development of novel nanobiomaterials, the enhancement of barrier performance of non-degradable and biodegradable plastics, and their fabrication and application in food packaging.

The book brings together fundamental information and the most recent advances in the synthesis, design, and impact of alternative food packaging. Special attention is offered on smart materials and nanodevices that are able to detect quality parameters in packaged food, such as freshness, degradation, and contamination, etc.

In addition, ecological approaches aiming to obtain bioplastics packages from waste materials are highlighted and discussed as a novel approach in modern food packaging. Nonetheless, this volume presents the advances made in biodegradable and bioactive packaging utilized for preserving flavor, nutritious ingredients, and therapeutic food compounds.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Advances in Food Rheology and Its Applications

Edited by: ***Jasim Ahmed*** Research Scientist, Environment & Life Sciences Research Center, Kuwait Institute for Scientific Research
Pawel Ptaszek Department of Engineering and Machinery for Food Industry, Agricultural University of Krakow, Krakow, Poland
Santanu Basu University Institute of Chemical Engineering and Technology (SSBUICET), Panjab University, Chandigarh, India

WP WOODHEAD PUBLISHING

ISBN: 978-0-08-100431-9
PUB DATE: September 2016
FORMAT: Hardback
PAGES: c. 498
TRIM: 6w x 9h

AUDIENCE
Academic researchers with an interest in food quality (especially those studying texture), industry professionals working on food quality and consumer acceptance and postgraduate university students in sensory science, food product development, food chemistry

This book presents in-depth and state-of-the-art coverage of the measurement and application of food rheology as a critical tool for food companies when characterizing ingredients and final products and predicting their performance and consumer acceptance

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

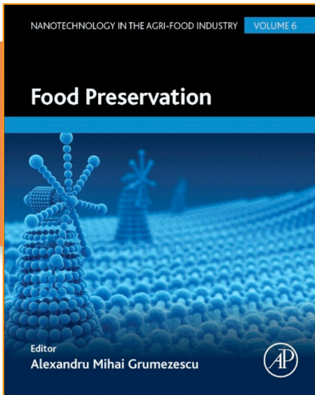
KEY FEATURES
- Brings together top researchers in the field of rheology, providing in-depth and state-of-the-art coverage on an area of study essential for managing the quality of foods and gaining consumer acceptance
- Presents in-depth coverage of advances in rheology, many of which have never been featured before, including tribology, large amplitude oscillatory shear measurement, and the influence of fibers and particle size distribution on food rheology
- Contains information that is highly relevant to the industrialist who wants to improve the rheological properties of the foods with which they are working

DESCRIPTION
Advances in Food Rheology and Applications presents the latest advances in the measurement and application of food rheology, one of the most important tools for food companies when characterizing ingredients and final products, and a predictor of product performance and consumer acceptance.

Split into two main focuses, the book gives in-depth analysis of the general advances in the field, with coverage of the relationship between food microstructure and rheology, the use of tribology in the study of oral processing, the use of large amplitude oscillatory shear (LAOS) measurement and Fourier-transform rheology in food, and the influence of fibers and particle size distribution on food rheology, as well as many other advances.

Written by a leading international team of authors, the book provides an in-depth and state-of-the-art coverage of this essential topic on the consumer acceptance of food.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Food Preservation

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804303-5

PUB DATE: September 2016

FORMAT: Hardback

PAGES: c. 762

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, Researchers, academic and government staff and students across all of food science and students in food science, biotechnological, and engineering fields

Presents tactics for the safety and quality of preserved food through nanoscale technologies, discussing nanovesicles, nanospheres, metallic nanoparticles, and more

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

- Describes the effective utilization of nanostructured antimicrobials in toxicological studies and real food systems
- Offers research strategies for understanding opportunities in antimicrobial nanostructures and the potential challenges of their toxicity
- Presents diverse applications of nanostructured antimicrobials in food preservation
- Covers the potential benefits of nanotechnology and methods of risk assessment that ensure food safety

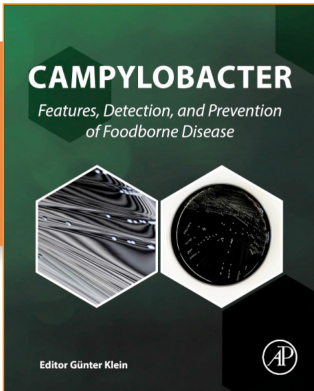
DESCRIPTION

Food Preservation, Volume Six, the latest in the *Nanotechnology in the Agri-Food Industry* series, discusses how nanotechnology can improve and control the growth of pathogenic and spoilage compounds to improve food safety and quality. The book includes research information on nanovesicles, nanospheres, metallic nanoparticles, nanofibers, and nanotubes, and how they are capable of trapping bioactive substances to increase and maintain the stability of compounds often sensitive under typical food processing and storage conditions. This book will be useful to a wide audience of food science research professionals and professors and students doing research in the field.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Campylobacter

Features, Detection, and Prevention of Foodborne Disease

Edited by: ***Günter Klein*** Institute of Food Quality and Food Safety, University of Veterinary Medicine Hannover (TiHo), Foundation, Hannover, Germany

ISBN: 978-0-12-803623-5

PUB DATE: September 2016

FORMAT: Paperback

PAGES: c. 148

TRIM: 7.5w x 9.25h

AUDIENCE

Food safety researchers, food microbiologists, food virologists, food scientists, food technologists, food industry workers, and public health workers in government, industry, and in academia

This concise resource fully analyzes the mechanisms of food-related pathogens to understand their relevance for food safety and to improve quality control

KEY FEATURES

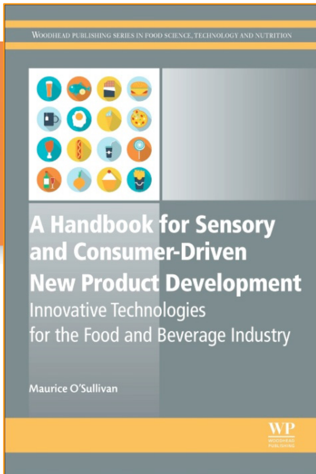
- Provides detailed knowledge of transmission, detection, and of the biology and impact on public health of *Campylobacter*
- Describes the specific adaptation and characteristics of *Campylobacter* as a foodborne pathogen
- Presents prevention and mitigation strategies as well as legal aspects to improve risk management options

DESCRIPTION

Campylobacter: Features, Prevention and Detection of Foodborne Disease is a unique and valuable reference for researchers in academics and industry as well as risk managers and students in the field needing to understand how this specific pathogen behaves in order to improve control of the whole food processing chain. The content in this book provides essential, specific information to help further understand the disease and its impact on public health. Furthermore the characteristics of the pathogen are detailed as well as prevention and mitigation strategies. Written by national and international experts in the field, this book will be a practical source of information for food scientists, food microbiologists, food technologists, food industry responsibles, public health specialists, and students.

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A Handbook for Sensory and Consumer-Driven New Product Development

Innovative Technologies for the Food and Beverage Industry

Maurice O'Sullivan Sensory Scientist at the School of Food and Nutritional Sciences, University College Cork, Ireland

WP WOODHEAD PUBLISHING

Complete with case studies, this practical guide examines new product development by investigating the use of sensory methods in the process of optimizing food and beverage products

ISBN: 978-0-08-100352-7

PUB DATE: September 2016

FORMAT: Hardback

PAGES: c. 338

TRIM: 6w x 9h

AUDIENCE

NPD managers/practitioners in the food industry, consumer and market research practitioners, R&D managers in the food industry, SME food manufacturers and postgraduate students in sensory science and food new product development

KEY FEATURES

- Presents novel and effective sensory-based methods for new product development—two related fields that are often covered separately
- Provides accessible, useful guidance to the new product developer working in a large multi-national food company as well as novices starting up a new business
- Offers case studies that provide examples of how these methods have been applied to real product development by practitioners in a wide range of organizations
- Investigates how the application of sensory analysis can improve new product development including packaging optimization

DESCRIPTION

A Handbook for Sensory and Consumer Driven New Product Development explores traditional and well established sensory methods (difference, descriptive and affective) as well as taking a novel approach to product development and the use of new methods and recent innovations. This book investigates the use of these established and new sensory methods, particularly hedonic methods coupled with descriptive methods (traditional and rapid), through multivariate data analytical interfaces in the process of optimizing food and beverage products effectively in a strategically defined manner.

The first part of the book covers the sensory methods which are used by sensory scientists and product developers, including established and new and innovative methods. The second section investigates the product development process and how the application of sensory analysis, instrumental methods and multivariate data analysis can improve new product development, including packaging optimization and shelf life. The final section defines the important sensory criteria and modalities of different food and beverage products including Dairy, Meat, Confectionary, Bakery, and Beverage (alcoholic and non-alcoholic), and presents case studies indicating how the methods described in the first two sections have been successfully and innovatively applied to these different foods and beverages.

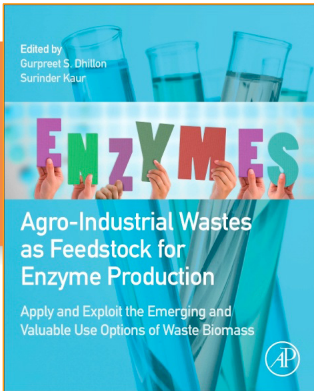
The book is written to be of value to new product development researchers working in large corporations, SMEs (micro, small or medium-sized enterprises) as well as being accessible to the novice starting up their own business. The innovative technologies and methods described are less expensive than some more traditional practices and aim to be quick and effective in assisting products to market.

Sensory testing is critical for new product development/optimization, ingredient substitution and devising appropriate packaging and shelf life as well as comparing foods or beverages to competitor's products.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Agro-Industrial Wastes as Feedstock for Enzyme Production

Apply and Exploit the Emerging and Valuable Use Options of Waste Biomass

Edited by: ***Gurpreet S. Dhillon*** University of Alberta, Canada
Surinder Kaur Banaras Hindu University

ISBN: 978-0-12-802392-1
PUB DATE: September 2016
FORMAT: Paperback
PAGES: c. 336
TRIM: 7.5w x 9.25h

AUDIENCE

Food science academic researchers, graduate and undergraduate students, R & D personnel and entrepreneurs.

This timely, cutting-edge guide explores the key opportunities and challenges in the emerging field of enzyme technology, with an emphasis on energy and bio-based industrial applications plus up-to-date and in-depth information on bioprospecting of agro-industrial wastes to obtain enzymes of economic importance

KEY FEATURES

- Addresses key opportunities and challenges in the emerging field of enzyme technology, with an emphasis on energy and bio-based industrial applications
- Explores the current state of the art bioprocesses in enzyme production using fruit and vegetable wastes with respect to their generation, current methods of disposal, and problems faced in terms of waste and regulation
- Presents in-depth information on bioprospecting of fruit and vegetable to obtain enzymes of economic importance
- Delves into environmental concerns and economic considerations related to fruit and vegetable processing by-products

DESCRIPTION

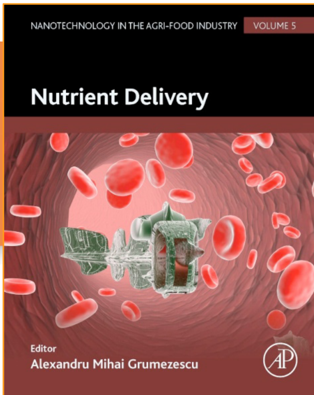
Agro-industrial Wastes as Feedstock for Enzyme Production: Apply and Exploit the Emerging and Valuable Use Options of Waste Biomass explores the current state-of-the-art bioprocesses in enzyme production using agro-industrial wastes with respect to their generation, current methods of disposal, the problems faced in terms of waste and regulation, and potential value-added protocols for these wastes. It surveys areas ripe for further inquiry as well as future trends in the field. Under each section, the individual chapters present up-to-date and in-depth information on bioprospecting of agro-industrial wastes to obtain enzymes of economic importance.

This book covers research gaps, including valorization of fruit and vegetable by-product—a key contribution toward sustainability that makes the utmost use of agricultural produce while employing low-energy and cost-efficient bioprocesses. Written by experts in the field of enzyme technology, the book provides valuable information for academic researchers, graduate students, and industry scientists working in industrial-food microbiology, biotechnology, bioprocess technology, post-harvest technology, agriculture, waste management, and the food industry.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Nutrient Delivery

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804304-2
PUB DATE: September 2016
FORMAT: Hardback
PAGES: c. 818
TRIM: 7.5w x 9.25h

AUDIENCE

Researchers, professionals and students in food science and in biotechnological and engineering fields

This fifth volume in the popular series discusses the fabrication, merits, demerits, applications, and bioavailability enhancement mechanisms of various nanodelivery systems

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

- Offers updated material for undergraduate and postgraduate students in food science, biotechnology, and related engineering fields
- Provides a valuable resource of recent scientific progress, along with most known applications of nanomaterials in the food industry for researchers, engineers, and academics
- Includes novel opportunities and ideas for developing or improving technologies in the food industry

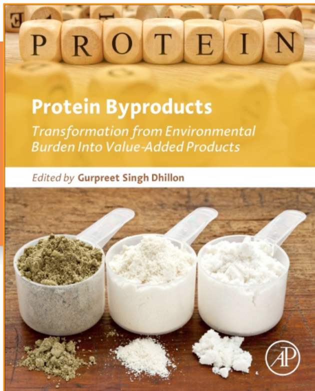
DESCRIPTION

Nutrient Delivery: Nanotechnology in the Agri-Food Industry, Volume Five, discusses the fabrication, merits, demerits, applications, and bioavailability enhancement mechanisms of various nanodelivery systems. Recent developments in various nanodelivery systems are also highlighted. *Volume 5* contains twenty chapters, prepared by outstanding international researchers from Argentina, Brazil, Canada, China, Croatia, India, Iran, Ireland, México, Pakistan, Portugal, Serbia, Sri Lanka, and the United States.

In recent years, the delivery of micronutrients at nanoscale has been widely studied as these systems have the potential to improve bioavailability, enable controlled release and enhance stability of food bioactives to a greater extent. The nanodelivery systems typically consist of the food bioactive compound encapsulated and stabilized in food grade ingredients such as lipids, proteins or polysaccharides with diameters ranging from 10 nm to 1000 nm. Among these, the lipid based delivery systems such as nanoemulsions, solid lipid nanoparticles, nanoliposomes and micelles are widely studied for the delivery of lipophilic bioactive compounds. These delivery vehicles improve the solubility, permeability, stability and bioavailability of the lipophilic compounds thereby enhancing their potential for oral delivery and functional food development.

On the other hand, the hydrophilic bioactives are delivered through protein, polysaccharide or biopolymer based colloidal nanosystems such as hydrogels, nanogels and polymer nanoparticles. The major concern other than solubility is the intestinal permeability of the micronutrients. For instance, the delivery system for compounds with poor intestinal permeability and low solubility need to be carefully designed using suitable lipids and surfactants.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Protein Byproducts

Transformation from Environmental Burden Into Value-Added Products

Gurpreet Singh Dhillon Postdoctoral Research Scientist, University of Alberta, Canada

ISBN: 978-0-12-802391-4

PUB DATE: August 2016

FORMAT: Paperback

PAGES: c. 342

TRIM: 7.5w x 9.25h

AUDIENCE

Research scientists from Food and Agriculture industries, R and D personnel from diverse backgrounds such as Bioprocess technology, Applied Industrial Microbiology, Environmental Sciences, Food Sciences and Chemical Engineering

Exploring the added value of proteinaceous waste byproducts and their sources, extraction, recovery, and characterization, this penetrating book provides insights into protein modification techniques to extend the product portfolio using these waste byproducts

KEY FEATURES

- Covers various feedstock resources, protein extraction, recovery methods, and related technical issues
- Presents modification and conversion technologies for the production of high value bioproducts
- Exhibits case studies and examples to illustrate both driving forces and constraints in the utilization of these proteinaceous materials
- Contains contributions from experts in the fields of applied industrial microbiology, engineering, bioprocess technology, protein chemistry, food chemistry, agriculture, plant sciences, environmental science, and waste management
- Serves as a comprehensive reference for students and research scientists in the food and agriculture industries

DESCRIPTION

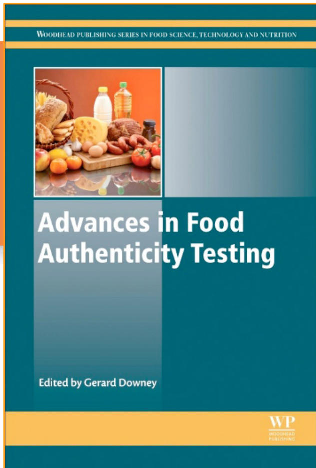
Protein Byproducts: Transformation from Environmental Burden into Value-Added Products deals with the added value of proteinaceous waste byproducts, discussing in detail the different sources of protein-rich byproducts, their extraction, recovery, and characterization. The book provides thorough insights into different protein modification techniques to extend the product portfolio using these waste byproducts.

Divided between three main sections, the book covers various feedstock resources, such as animal-derived/plant-derived proteins, marine waste-derived proteins, protein extraction and recovery methods, and related technical issues including modification and conversion technologies for the production of high value bioproducts. It contains contributions from experts in the fields of applied industrial microbiology, engineering, bioprocess technology, protein chemistry, food chemistry, agriculture, plant sciences, environmental science, and waste management, serving as a comprehensive reference for students and research scientists in the food and agriculture industries.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Advances in Food Authenticity Testing

Edited by: ***Gerard Downey*** Professor at Teagasc Food Research Centre, Ireland

WP WOODHEAD PUBLISHING

This book covers the range of advances taking place in food quality and safety, including scientific processes and techniques and specific examples of their use in the testing of various foods

ISBN: 978-0-08-100220-9

PUB DATE: September 2016

FORMAT: Hardback

PAGES: c. 782

TRIM: 6w x 9h

AUDIENCE

Professionals working in government/industry responsible for food authenticity testing as well as academics and researchers working in the field of developing food authenticity testing equipment/techniques

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Covers a topic that is of great importance to both the food industry and the governmental agencies tasked with verifying the safety and authenticity of food products
- Presents a wide range of methods and techniques utilized in the testing of food authenticity, including new implementations and processes
- Highlights specific examples of the use of the emerging techniques and testing strategies for various foods

DESCRIPTION

Advances in Food Authenticity Testing covers a topic that is of great importance to both the food industry whose responsibility it is to provide clear and accurate labeling of their products and maintain food safety and the government agencies and organizations that are tasked with the verification of claims of food authenticity.

The adulteration of foods with cheaper alternatives has a long history, but the analytical techniques which can be implemented to test for these are ever advancing.

The book covers the wide range of methods and techniques utilized in the testing of food authenticity, including new implementations and processes. The first part of the book examines, in detail, the scientific basis and the process of how these techniques are used, while other sections highlight specific examples of the use of these techniques in the testing of various foods.

Written by experts in both academia and industry, the book provides the most up-to-date and comprehensive coverage of this important and rapidly progressing field.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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COVER IMAGE FORTHCOMING

Advances in Fermented Foods and Beverages

Improving Quality, Technologies and Health Benefits

Edited by: ***W Holzapfel*** Professor, Graduate School of Advanced Green Energy and Environment, Handong Global University, Pohang, Gyungbuk, South Korea

WP WOODHEAD PUBLISHING

This book reviews the health benefits of fermented foods and beverages, the microbiology of fermentation, and key aspects of fermented food production.

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-101430-1
PUB DATE: August 2016
FORMAT: Paperback
PAGES: c. 560
TRIM: 6w x 9h

AUDIENCE

R&D and quality control managers in companies manufacturing all foods and beverages with a fermented element, and academics with a research interest in this area.

DESCRIPTION

Fermentation is used in a wide range of food and beverage applications, and the technology for enhancing this process is continually evolving. This book reviews the use of fermentation in foods and beverages and key aspects of fermented food production. Part one covers the health benefits of fermented foods. Part two includes chapters on fermentation microbiology, while part three looks at ways of controlling and monitoring the quality and safety of fermented foods. Part four covers advances in fermentation technology. Finally, part five covers particular fermented food products.

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COVER IMAGE FORTHCOMING

Handbook of Natural Antimicrobials for Food Safety and Quality

Edited by: ***M Taylor*** Assistant Professor of Food Microbiology, Department of Animal Science, Texas A&M University, USA

WOODHEAD PUBLISHING

ISBN: 978-0-08-101399-1

PUB DATE: August 2016

FORMAT: Paperback

PAGES: c. 412

TRIM: 6w x 9h

AUDIENCE

R&D managers in the food industry, food industry professionals responsible for product safety, product development professionals working with clean-label or 'natural' products and academic researchers with an interest in this area.

As natural additives are increasingly favoured over synthetic ones, this handbook focuses on new developments to enhance the quality, safety, applications, and effectiveness of natural antimicrobials in food.

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

"...focuses on new developments to enhance the quality, safety, applications, and effectiveness of natural antimicrobials in food." --**IFIS**

KEY FEATURES

- Reviews different types of antimicrobials used in food safety and quality
- Covers how antimicrobials are created to be used in different foods
- Examines how the antimicrobials are used in foods to enhance the safety and quality

DESCRIPTION

Natural additives are increasingly favoured over synthetic ones as methods of ensuring food safety and long shelf-life. The antimicrobial properties of both plant-based antimicrobials such as essential oils and proteins such as bacteriocins are used in, for example, edible preservative films, in food packaging and in combination with synthetic preservatives for maximum efficacy. New developments in delivery technology such as nanoencapsulation also increase the potential of natural antimicrobials for widespread use in industry. Part one introduces the different types of natural antimicrobials for food applications. Part two covers methods of application, and part three looks at determining the effectiveness of natural antimicrobials in food. Part four focuses on enhancing quality and safety, and includes chapters on specific food products.

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COVER IMAGE FORTHCOMING

High Throughput Screening for Food Safety Assessment

Biosensor Technologies, Hyperspectral Imaging and Practical Applications

Edited by: ***A K Bhunia*** Arun K. Bhunia, Purdue University, USA
M S Kim USDA-ARS Beltsville, USA
C R Taitt Naval Research Laboratory, Washington DC, USA

WP WOODHEAD PUBLISHING

ISBN: 978-0-08-101383-0
PUB DATE: August 2016
FORMAT: Paperback
PAGES: c. 524
TRIM: 6w x 9h

AUDIENCE

R&D and quality control managers in the food and biosensors industries; Food engineers working on the development of detection methods; Microbiologists and regulatory agencies

This book summarises the latest research and applications of sensor technologies for online and high-throughput screening of food.

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Summarises the latest research on sensor technologies for online and high-throughput screening of food
- Covers high-throughput screening and the current and forecast state of rapid contaminant detection technologies
- Looks at the use of optical and electrochemical biosensors and hyperspectral imaging in food safety assessment and the application of these technologies in specific food products

DESCRIPTION

Recent advances in array-based detectors and imaging technologies have provided high throughput systems that can operate within a substantially reduced timeframe and other techniques that can detect multiple contaminants at one time. These technologies are revolutionary in terms of food safety assessment in manufacturing, and will also have a significant impact on areas such as public health and food defence. This book summarizes the latest research and applications of sensor technologies for online and high throughput screening of food.

The book first introduces high throughput screening strategies and technology platforms, and discusses key issues in sample collection and preparation. The subsequent chapters are then grouped into four sections: Part I reviews biorecognition techniques; Part II covers the use of optical biosensors and hyperspectral imaging in food safety assessment; Part III focuses on electrochemical and mass-based transducers; and finally Part IV deals with the application of these safety assessment technologies in specific food products, including meat and poultry, seafood, fruits and vegetables.

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COVER IMAGE FORTHCOMING

Flavour Development, Analysis and Perception in Food and Beverages

Edited by: ***J K Parker*** The Flavour Centre, University of Reading, UK
S Elmore The Flavour Centre, University of Reading, UK
L Methven The Flavour Centre, University of Reading, UK

WP WOODHEAD PUBLISHING

ISBN: 978-0-08-101382-3

PUB DATE: August 2016

FORMAT: Paperback

PAGES: c. 418

TRIM: 6w x 9h

AUDIENCE

Flavour and aroma scientists, R&D managers in the area of flavourings, new product development professionals and academics with a research interest in this area.

Flavour is a critical aspect of food production and processing, requiring careful design, monitoring and testing in order to create an appealing and safe food product.

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

"...discusses flavour generation, flavour analysis and sensory perception of food flavour and applications of these techniques in the food industry to create new and improve existing products." --**IFIS**

KEY FEATURES

- Covers the analysis and characterisation of aromas and taste compounds
- Examines how aromas can be created and predicted
- Reviews how different flavours are perceived

DESCRIPTION

Flavour is a critical aspect of food production and processing, requiring careful design, monitoring and testing in order to create an appealing food product. This book looks at flavour generation, flavour analysis and sensory perception of food flavour and how these techniques can be used in the food industry to create new and improve existing products. Part one covers established and emerging methods of characterising and analysing taste and aroma compounds. Part two looks at different factors in the generation of aroma. Finally, part three focuses on sensory analysis of food flavour.

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COVER IMAGE FORTHCOMING

Rapid Sensory Profiling Techniques

Applications in New Product Development and Consumer Research

Edited by: ***J Delarue*** AgroParisTech, France
B Lawlor Danone, The Netherlands
M Rogeaux Danone, France

ISBN: 978-0-08-101332-8
PUB DATE: August 2016
FORMAT: Paperback
PAGES: c. 556
TRIM: 6w x 9h

AUDIENCE

R&D managers and product development personnel in the food and other consumer industries; academics with a research interest in the area of sensory perception; sensory survey and software developers.

Sensory analysis is an important tool in new product development. *Rapid Sensory Profiling Techniques* provides a comprehensive review of rapid methods for sensory analysis.

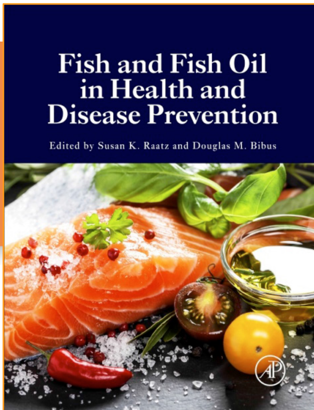
A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

DESCRIPTION

Sensory analysis is an important tool in new product development. There has recently been significant development in the methods used to capture sensory perception of a product. *Rapid Sensory Profiling Techniques* provides a comprehensive review of rapid methods for sensory analysis that can be used as alternatives or complementary to conventional descriptive methods. Part one looks at the evolution of sensory perception capture methods. Part two focuses on rapid methods used to capture sensory perception, and part three covers their applications in new product development and consumer research. Finally, part four explores the applications of rapid methods in testing specific populations.

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Fish and Fish Oil in Health and Disease Prevention

Edited by: ***Susan Raatz*** United States Department of Agriculture (USDA), Agricultural Research Service (ARS), Grand Forks Human Nutrition Research Center, ND, USA
Douglas Bibus Founder and President, Lipid Technologies, LLC, MN, USA

This informative book offers the most up-to-date information on the effects of fish and fish oil consumption on human health, with particular emphasis on the current state of fish and fish oil intake and including research on unique fish and oil sources and potential problems with fish availability

ISBN: 978-0-12-802844-5

PUB DATE: July 2016

FORMAT: Hardback

PAGES: c. 366

TRIM: 8.5w x 10.875h

AUDIENCE

Researchers studying nutrition, food science, functional food, fish intake, fish oil, fatty acids, etc. Clinicians working in interdisciplinary teams. Graduate students in nutrition and food science programs.

KEY FEATURES

- Imparts a valuable understanding of fish intake patterns around the world and the role of fish and fish oil in human health through the lifecycle
- Offers an understanding of the role of fish and fish oil in disease risk reduction and treatment
- Presents the current status of fish intake and recommended intake levels for human health
- Focuses on research on unique fish and oil sources and potential problems with fish availability

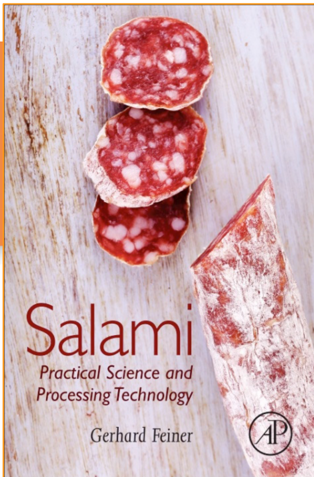
DESCRIPTION

Fish and Fish Oil in Health and Disease Prevention provides an authoritative review of the role of fish and fish oil intake in the promotion of human health. This up-to-date volume provides a complete examination of intake patterns as well as research evidence of intake in disease prevention and treatment.

Readers will gain knowledge ranging from the current state of fish and fish oil intake, their health promoting effects and influences on individual response, how they influence development and health maintenance through the life cycle, and their role in disease prevention and treatment. This book is an invaluable resource for all researchers working to understand the relationship between fish and human health. It is a valuable reference for nutritionists, dietitians, and health care providers.

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Salami

Practical Science and Processing Technology

Gerhard Feiner Lecturer at RMIT University in Melbourne on Meat Processing Technology

ISBN: 978-0-12-809598-0

PUB DATE: July 2016

FORMAT: Paperback

PAGES: c. 214

TRIM: 6w x 9h

AUDIENCE

A&G, and corporate markets in food and science technology, food scientists and technologists, food safety managers, food microbiologists, food product- and process optimization managers, product development managers

An all-in-one reference on research & development, quality, and production control that is ideal for managers working in the meat industry

KEY FEATURES

- Provides food safety summaries at the end of each chapter
- Includes detailed information on the composition and function of raw meat, additives, and technologies
- Presents recipes on how salami is produced by linking theory and science with the process of making salami
- Describes how to avoid faulty products and control food safety, etc.

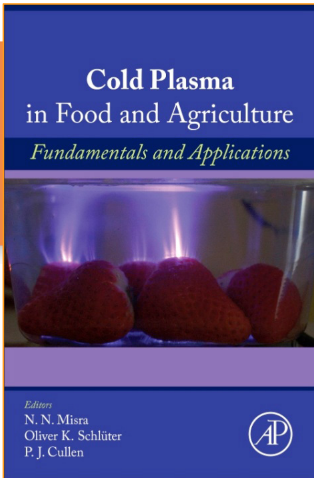
DESCRIPTION

Salami: Practical Science and Processing Technology is a one-of-a-kind reference that covers all types of salami products from around the world, including all aspects of salami, such as microbiology, food safety, and research development trends. It provides the latest scientific findings and developments used to describe the production and manufacturing processes that lead to products that are produced efficiently and safe to eat.

The book is a comprehensive resource that combines a scientific and hands-on approach that is useful not only to those in the industry, but also students of meat science. The purpose of the book is to give clear and helpful guidelines to professionals within the meat-processing industry, such as technical, production, operations, process improvement, quality control, and research and development managers.

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Cold Plasma in Food and Agriculture

Fundamentals and Applications

Edited by: ***NN Misra*** 79GTECH, Research & Development, General Mills India, Mumbai, India
Oliver Schlüter Leibniz Institute for Agricultural Engineering Potsdam-Bornim (ATB), Postdam, Germany
PJ Cullen BioPlasma Group, School of Food Science & Environmental Health, Dublin Institute of Technology, Ireland

ISBN: 978-0-12-801365-6

PUB DATE: July 2016

FORMAT: Paperback

PAGES: c. 368

TRIM: 6w x 9h

AUDIENCE

Primary Market: food science researchers, engineers in industry
Secondary Market: researchers in food processing, food technology, food chemists, and physicists, R and D, A and G, industry

This essential reference explores cutting-edge developments on the nonthermal plasma technology used to improve food safety and quality and is useful for anyone interested in applying novel plasma technology to food and other sensitive biomaterials

KEY FEATURES

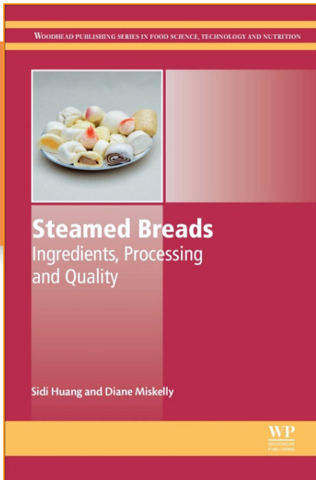
- Examines the topic of cold plasma technology for food applications
- Demonstrates state-of-the-art developments in plasma technology and potential solutions to improve food safety and quality
- Presents a solid introduction for readers on the topics of plasma physics and chemistry that are required to understand biological applications for foods
- Serves as a roadmap for future developments for food scientists, food engineers, and biologists, chemists, and physicists working in this emerging field

DESCRIPTION

Cold Plasma in Food and Agriculture: Fundamentals and Applications is an essential reference offering a broad perspective on a new, exciting, and growing field for the food industry. Written for researchers, industry personnel, and students interested in nonthermal food technology, this reference will lay the groundwork of plasma physics, chemistry, and technology, and their biological applications.

Food scientists and food engineers interested in understanding the theory and application of nonthermal plasma for food will find this book valuable because it provides a roadmap for future developments in this emerging field. This reference is also useful for biologists, chemists, and physicists who wish to understand the fundamentals of plasma physics, chemistry, and technology and their biological interactions through applying novel plasma sources to food and other sensitive biomaterials.

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ISBN: 978-0-08-100715-0

PUB DATE: July 2016

FORMAT: Hardback

PAGES: c. 178

TRIM: 6w x 9h

AUDIENCE

Scientists, researchers, technologists, wheat breeders, wheat marketers, flour millers, students, Asian food and steamed bread manufacturers and marketers.

Steamed Breads

Ingredients, Processing and Quality

Sidi Huang Senior Research Scientist, Grain Growers Ltd, Australia
Diane Miskelly Westcott Consultants, Goulburn, Australia

WOODHEAD PUBLISHING

Examining all aspects of steamed bread and steamed bun technology, this practical guide coversclassification, flour quality requirements, ingredients, production methods, bread faults and solutions, storage, food safety, nutrition, and future trends

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Provides the first comprehensive reference on steamed breads and steamed buns
- Features input from authors who are leading experts in steamed bread technology and pioneers in steamed bread research
- Contains important information on the ingredients, processing, and quality of this staple food of China, which is gaining popularity around the world
- Includes classification of the different types of steamed bread, flour quality requirements, ingredients, traditional and modern production methods, bread faults and solutions, storage, food safety, nutrition, and future trends

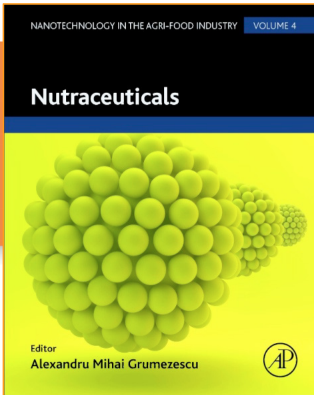
DESCRIPTION

Steamed Breads: Ingredients, Processing, and Quality provides an overview of all aspects of steamed bread and steamed bun technology. A valuable resource for those interested in the practical, technical, scientific, and historical aspects of the subject. Topics that are covered include classification of the different types of steamed bread, flour quality requirements, ingredients, traditional and modern production methods, bread faults and solutions, storage, food safety, nutrition, and future trends.

Steamed bread and filled steamed buns or mantou are the staple food in the wheat growing areas of China. Around 50% of all flour consumed in China is used to produce steamed breads. They have recently spread to other Asian countries and are now eaten around the world. The current state of relevant research knowledge about steamed bread in Asia and throughout the world is described. The first comprehensive reference on the topic, *Steamed Breads* provides a complete overview of this important wheat-based Asian food of value to cereal scientists and researchers, wheat marketers and breeders, and Asian food and steamed bread manufacturers.

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Nutraceuticals

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804305-9

PUB DATE: July 2016

FORMAT: Hardback

PAGES: c. 860

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, researchers, academic staff, and students across all of food science

Focusing on the nutraceuticals gaining significant attention because of their apparent safety and nutritional and therapeutic uses, this fourth volume in the popular *Nanotechnology in the Agri-Food Industry* series discusses the properties of different nutraceuticals to illustrate the potential role of nanotechnology in nutraceutical delivery systems in food science

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

- Includes the most up-to-date research on nanotechniques and the applications most useful in the food industry
- Presents various natural and synthetic polymer-based nanoparticulate systems and their conjugates to the food industry including proteins, lipids, carbohydrates, and other biopolymers for applications
- Provides uses of nanoparticle uptake in ingredients as well as the potential side effects of nanoparticle carriers
- Covers potential benefits and methods of risk assessment for food safety

DESCRIPTION

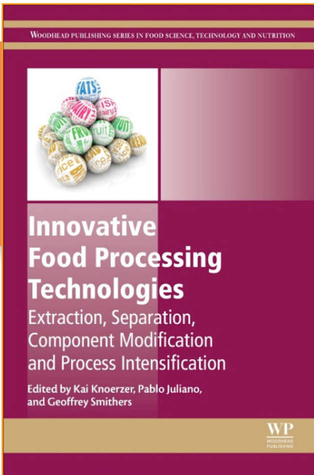
Nutraceuticals, the fourth volume in the *Nanotechnology in the Agri-Food Industry* series, is an invaluable resource for anyone in the food industry who needs the most current information about scientific advances in this field. Nutraceuticals are gaining significant attention because of their apparent safety, as well as their nutritional and therapeutic uses.

Scientific indications have reinforced dietary interposition as an effective implement for a healthy lifestyle. Bioactive components have been shown to exhibit antioxidant, anti-inflammatory, antimicrobial, hypocholesterolemic, hypoglycemic, anti-mutagenic, and anti-carcinogenic roles in the living system. Research professionals, professors, and students will all find this book useful.

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Innovative Food Processing Technologies

Extraction, Separation, Component Modification and Process Intensification

Edited by: ***K Knoerzer*** Research Project Leader, CSIRO, Australia
Pablo Juliano Research Scientist, CSIRO, Australia
Geoffrey W Smithers Freelance Food Industry Consultant, Australia

ISBN: 978-0-08-100294-0
PUB DATE: July 2016
FORMAT: Hardback
PAGES: c. 482
TRIM: 6w x 9h

AUDIENCE

R&D managers working within food manufacturing and processing firms as well as consultants working in food processing for food companies

As an essential volume on food processing technologies, this book details a wide range of processes, advancements, and emerging technologies, while focusing on advancements in new and novel non-thermal processing technologies that allow food producers to modify and process food with minimal damage

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

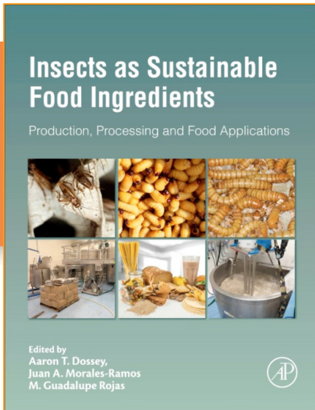
KEY FEATURES

- Provides information on a variety of food processing technologies
- Focuses on advances in new and novel non-thermal processing technologies which allow food producers to modify and process food with minimal damage to the foodstuffs
- Presents a strong focus on the application of technologies in a variety of situations
- Created by editors who have a background in both the industry and academia

DESCRIPTION

Innovative Food Processing Technologies: Extraction, Separation, Component Modification and Process Intensification focuses on advances in new and novel non-thermal processing technologies which allow food producers to modify and process food with minimal damage to the foodstuffs.

The book is highly focused on the application of new and novel technologies, beginning with an introductory chapter, and then detailing technologies which can be used to extract food components. Further sections on the use of technologies to modify the structure of food and the separation of food components are also included, with a final section focusing on process intensification and enhancement.



Insects as Sustainable Food Ingredients

Production, Processing and Food Applications

Edited by: ***Aaron T. Dossey*** President of All Things Bugs LLC, USA
Juan A. Morales-Ramos USDA-ARS, National Biological Control Laboratory, Stoneville, MS, USA
M. Guadalupe Rojas USDA-ARS, National Biological Control Laboratory, Stoneville, MS, USA

ISBN: 978-0-12-802856-8

PUB DATE: July 2016

FORMAT: Hardback

PAGES: c. 386

TRIM: 8.5w x 10.875h

AUDIENCE

Food Scientists, Nutrition researchers, Sustainable food researchers, Entomologists; Students in Entomology, Food Science, Agriculture and Sustainability courses; Academic researchers, professors, and post-docs; regulators

Describes how insects can be mass produced and incorporated into our food supply at an industrial and cost effective scale

KEY FEATURES

- Details the current state and future direction of insects as a sustainable source of protein, food, feed, medicine, and other useful biomaterials
- Provides valuable guidance that is useful to anyone interested in utilizing insects as food ingredients
- Presents insects as an alternative protein/nutrient source that is ideal for food companies, nutritionists, entomologists, food entrepreneurs, and athletes, etc.
- Summarizes the current state-of-the-art, providing helpful recommendations on building companies, products, and research programs
- Ideal reference for researchers, entrepreneurs, farmers, policymakers, and anyone interested in insect mass production and the industrial use of insects
- Outlines the challenges and opportunities within this emerging industry

DESCRIPTION

Insects as Sustainable Food Ingredients: Production, Processing and Food Applications describes how insects can be mass produced and incorporated into our food supply at an industrial and cost-effective scale, providing valuable guidance on how to build the insect-based agriculture and the food and biomaterial industry. Editor Aaron Dossey, a pioneer in the processing of insects for human consumption, brings together a team of international experts who effectively summarize the current state-of-the-art, providing helpful recommendations on which readers can build companies, products, and research programs.

Researchers, entrepreneurs, farmers, policymakers, and anyone interested in insect mass production and the industrial use of insects will benefit from the content in this comprehensive reference. The book contains all the information a basic practitioner in the field needs, making this a useful resource for those writing a grant, a research or review article, a press article, or news clip, or for those deciding how to enter the world of insect based food ingredients.

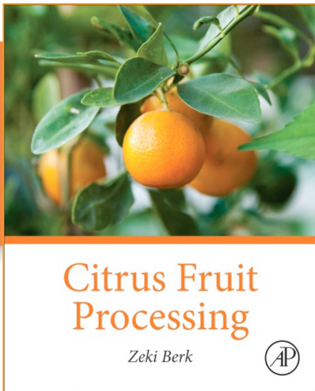
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Citrus Fruit Processing

Zeki Berk Technion, Israel Institute of Technology, Haifa



ISBN: 978-0-12-803133-9

PUB DATE: July 2016

FORMAT: Paperback

PAGES: c. 318

TRIM: 7.5w x 9.25h

AUDIENCE

Technologists and managers involved in the industrial processing of citrus fruit; Food scientists involved in citrus-related research; Technologists and managers involved in fresh citrus fruit handling; Food technology/ food science/ food engineering students and teaching staff.

A thorough examination of citrus, from its physiology and production to its processing, this comprehensive volume is organized in an easy-to-follow manner that highlights the many aspects of citrus processing, including agricultural practices, juice processing, byproducts, and safety

KEY FEATURES

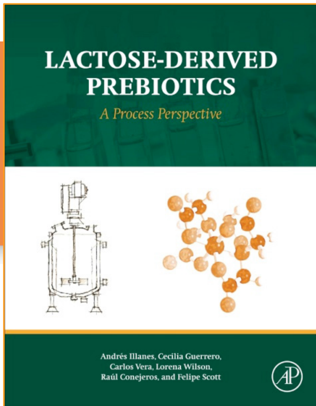
- Offers completely up-to-date coverage of scientific research on citrus and processing technology
- Explores all aspects of citrus and its processing, including biochemistry, technology, and health
- Provides an easy-to-follow organization that highlights the many aspects of citrus processing, including agricultural practices, juice processing, byproducts, and safety
- Describes processing in the context of single-strength juices, concentrated juices, preserves, and nutrition

DESCRIPTION

Citrus Fruit Processing offers a thorough examination of citrus—from its physiology and production to its processing, including packaging and by-product processing. Beginning with foundational information on agricultural practices, biology, and harvesting, *Citrus Fruit Processing* goes on to describe processing in the context of single-strength juices, concentrated juices, preserves, and nutrition. New technologies are constantly emerging in food processing, and citrus processing is no different. This book provides researchers with much-needed information on these technologies, including state-of-the-art methodologies, all in one volume.

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Lactose-Derived Prebiotics

A Process Perspective

Andrés Illanes School of Biochemical Engineering, Pontificia Universidad Católica de Valparaíso, Chile; ***Cecilia Guerrero*** School of Biochemical Engineering, Pontificia Universidad Católica de Valparaíso, Chile; ***Carlos Vera*** School of Biochemical Engineering, Pontificia Universidad Católica de Valparaíso, Chile; ***Lorena Wilson*** School of Biochemical Engineering, Pontificia Universidad Católica de Valparaíso, Chile; ***Raúl Conejeros*** School of Biochemical Engineering, Pontificia Universidad Católica de Valparaíso, Chile; ***Felipe Scott*** Professor, Faculty of Engineering and Applied Sciences, Universidad de Los Andes, Santiago, Chile

ISBN: 978-0-12-802724-0

PUB DATE: July 2016

FORMAT: Hardback

PAGES: c. 298

TRIM: 8.5w x 10.875h

AUDIENCE

Dairy scientists and engineers working in the industry and academia.

Provides a thorough review of the present status, potential, and future trends of lactose-derived oligosaccharides as ingredients of functional foods and an overview of production methods. Covers the functional properties of prebiotics derived from lactose and the production technology required to make them.

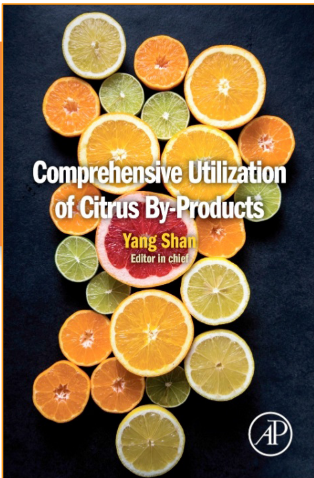
KEY FEATURES

- Presents the challenges of and opportunities for deriving oligosaccharides from lactose
- Details the technologies and methods required to produce lactose-derived prebiotics, including a comparison between chemical and enzymatic synthesis
- Discusses the potential use of whey as a raw material for the synthesis of non-digestible lactose-derived oligosaccharides
- Provides a process engineer perspective and includes valuable information about kinetics and reactor design for the enzymatic synthesis of lactose-derived oligosaccharides

DESCRIPTION

Lactose-Derived Prebiotics: A Process Perspective is the first scientific reference to provide a comprehensive technological overview of the processes to derive oligosaccharides from dairy for use in functional foods. With their combined 90+ years in industry and research, the authors present the functional properties of prebiotics derived from lactose and the production technology required to make them. The book focuses on process engineering and includes an overview of green chemistry processes involving enzyme biocatalysis, providing detailed coverage of the use of whey lactose as raw material for producing oligosaccharides. The book's focus on processes and products allows the reader to understand the constraints and impacts of technology on lactose-derived prebiotics.

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Comprehensive Utilization of Citrus By-products

Edited by: ***Yang Shan*** Professor and Vice-president, Hunan Academy of Agricultural Sciences, Beijing, China

ISBN: 978-0-12-809785-4

PUB DATE: July 2016

FORMAT: Paperback

PAGES: c. 116

TRIM: 6w x 9h

AUDIENCE

Scientists, scholars, and students working with or studying citrus; citrus processing enterprises; dietitians and nutritionists; farmers from cooperative organizations related to citrus processing

This seminal reference provides comprehensive information on the development and use of citrus by-products, including the types, preparation, and determination of their main functional components

KEY FEATURES

- Offers a comprehensive presentation of the functional components in citrus by-products and their utilization
- Illustrates the determination methods of, and extraction processes for, functional components, as well as the isolation, identification, and synthesis of new compounds
- Reviews the research and development of citrus by-products, their biodegradable transformation, and processing equipment
- Provides a valuable reference for scientists, scholars, and students working on citrus, dietitians and nutritionists, citrus processing enterprises, and farmers from cooperative organizations related to citrus processing

DESCRIPTION

Comprehensive Utilization of Citrus By-products provides comprehensive knowledge and information on the development and utilization of citrus by-products, including the types, preparation, and determination of their main functional components. As one of the most popular fruits in the world, the processing of citrus fruits produces a great deal of citrus peel, a primary by-product. Current treatments of citrus peel pollute the environment and waste resources so eco-friendly solutions are sought.

This book reflects research, trends and attitudes in the field, presenting a wide overview including extraction processes for functional components; isolation and structural identification; synthesis of new compounds; and the research and development of citrus by-products, their biodegradable transformation, and processing equipment. This valuable reference book can be used by scientists, scholars, and students working on citrus, dietitians and nutritionists, citrus processing enterprises, and farmers from cooperative organizations related to citrus processing.

Emulsions, Vol 3

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania



ISBN: 978-0-12-804306-6

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 736

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals, researchers, academic staff and students across all of food science doing research in this area

This third volume in the popular *Nanotechnology in the Food Industry* series focuses on nanoemulsion systems and presents an overview of the production methods, materials (solvents, emulsifiers, and functional ingredients), and current analytical techniques that can be used for the identification and characterization of nanoemulsions

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

- Presents fundamentals of nanoemulsions, methods of preparation (high-energy and low-energy techniques), and applications in the food industry
- Includes research studies of nanoemulsification technology to improve bioavailability of food ingredients and research analysis
- Offers benefits and methods of risk assessment to ensure food safety
- Presents cutting-edge encapsulating systems to improve the quality of functional compounds
- Provides a variety of methods, such as high-shear stirring, high-pressure homogenizers, self-emulsification, phase transitions and phase-inversion, to further research in this field

DESCRIPTION

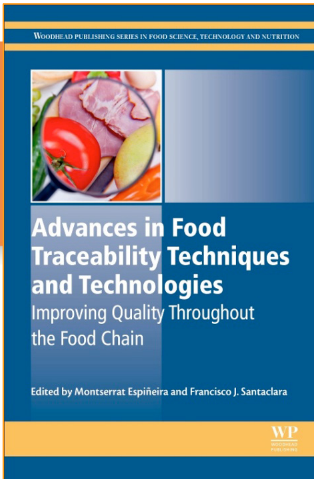
Emulsions, the third volume of the *Nanotechnology in the Food Industry* series, is an invaluable resource for anyone in the food industry who needs the most recent information about scientific advances in nanotechnology on this topic. This volume focuses on basic and advanced knowledge about nanoemulsion, and presents an overview of the production methods, materials (solvents, emulsifiers, and functional ingredients), and current analytical techniques that can be used for the identification and characterization of nanoemulsions.

The book also discusses the applications of nanoemulsion with special emphasis on systems suitable for utilization within the food industry. This book is useful to a wide audience of food science research professionals and students who are doing research in this field, as well as others interested in recent nanotechnological progress worldwide.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Advances in Food Traceability Techniques and Technologies

Improving Quality Throughout the Food Chain

Edited by: ***Montserrat Espiñeira*** Researcher at the Research Department of Living Resources, Vigo, Spain
Francisco J Santaclara Researcher at the Research Department of Living Resources, Vigo, Spain

WP WOODHEAD PUBLISHING

Edited by leaders in the field, this book covers the range of food traceability advances that are of great importance to both food quality and safety and includes case studies evaluating how food traceability has been successfully implemented in various food stuffs

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100310-7
PUB DATE: June 2016
FORMAT: Hardback
PAGES: c. 374
TRIM: 6w x 9h

AUDIENCE
Professionals working in government/industry responsible for food traceability, as well as academics and researchers working in the field of developing food traceability testing equipment/techniques

KEY FEATURES

- Provides a wide ranging overview of all recent advances in food traceability techniques and technologies
- Presents case studies covering when food traceability techniques have been applied to a range of food stuffs
- Covers the legal aspects of food traceability in the EU, the USA, and around the world

DESCRIPTION

Advances in Food Traceability Techniques and Technologies: Improving Quality Throughout the Food Chain covers in detail a topic of great importance to both the food industry which is obliged to provide clear and accurate labeling of their products and the government and other organizations which are tasked with verification of claims of food quality and safety.

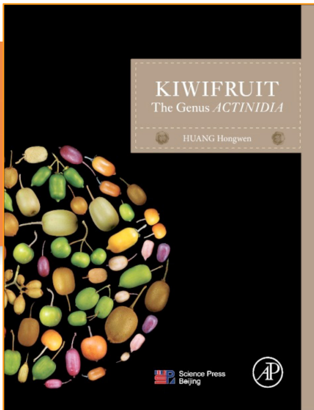
The traceability of food products is becoming ever more important as globalization continues to increase the complexity of food chains. Coverage in the book includes the wide range of technologies and techniques which have been utilized in the tracing of food products. In addition, the ways in which the misuse of food traceability will affect the quality of food is also covered throughout.

The first part of the book introduces the concept of traceability in the food industry, highlighting advantages of a robust traceability and the difficulties involved in implementing them. The second part looks at the technologies used to trace products, and the third section reviews the legal requirements for food traceability in the EU, the US, and the rest of the world.

The final section contains a number of case studies which evaluate how food traceability has been successfully implemented in various foods focusing on the quality of the food.

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Kiwifruit

The Genus ACTINIDIA

Hongwen Huang Professor, South China Botanical Garden, Chinese Academy of Sciences, China

ISBN: 978-0-12-803066-0

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 334

TRIM: 8.5w x 10.875h

AUDIENCE

Botanists, horticulturists, taxonomists, plant breeders, conservationists and kiwifruit technicians & extension specialists, college teachers & students in botany and horticulture related majors. This book also can be used as a reference for Kiwifruit growers, gardeners, and horticultural and botanical enthusiasts.

An authoritative, English language reference book on the genus *Actinidia* (Kiwifruit) that includes guidance on cultivation, production, and commercialization

KEY FEATURES

- Presents the first world monograph on the genus *Actinidia* (kiwifruit)
- Provides up-to-date research based on "everything kiwi", including new and critical information on kiwi germplasm and taxonomy from China, the native country of kiwi
- Includes authoritative and detailed descriptions for each species, with extensive color illustrations and information accumulated during the author's 30 years of research

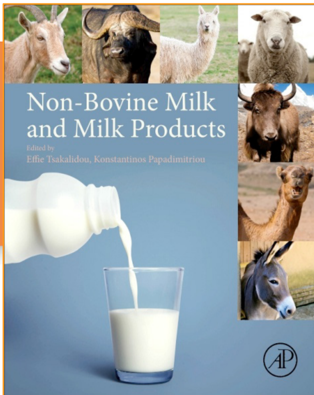
DESCRIPTION

Kiwifruit: The Genus ACTINIDIA includes extensive and full coverage of scientific and applied information, ranging from basic taxonomy, population genetics, and natural resources/distribution, to domestication history and breeding/cultivars, also including further information on culture and international production and commercialization.

The book gathers information not previously available in the English language, providing an authoritative reference for professionals, including taxonomists, horticulturist, breeders, conservationists, kiwifruit technicians, college teachers, policymakers in the industry, and governments. In addition to those in the academic and professional sectors, horticultural and botanical enthusiasts will find the information presented highly accessible.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Non-Bovine Milk and Milk Products

Edited by: ***Effie Tsakalidou*** Food Biochemistry Laboratory, Dairy Research Department of Food Science and Human Nutrition, Agricultural University of Athens, Athens, Greece
Konstantinos Papadimitriou Laboratory of Dairy Research Department of Food Science and Human Nutrition, Agricultural University of Athens, Athens, Greece

A holistic and balanced overview of all aspects of non-cow milk and derived products, this robust guide covers related socioeconomic issues, emerging challenges in animal husbandry, and non-cow milk production, processing, technology, safety, nutrition, and health plus current industry policies and practices

ISBN: 978-0-12-803361-6
PUB DATE: June 2016
FORMAT: Hardback
PAGES: c. 274
TRIM: 7.5w x 9.25h

AUDIENCE

Researchers studying non-bovine milk and milk products in both industry and academia; dairy science students and professors

KEY FEATURES

- Discusses important social, economic, and environmental aspects of the production and distribution of non-bovine milk and milk products
- Provides insight into non-bovine milk from a broad range of relevant perspectives with contributions from leading researchers around the world
- Focuses on current concerns including animal health and welfare, product safety, and production technologies
- Serves as a valuable resource for those involved in the non-cow milk sector

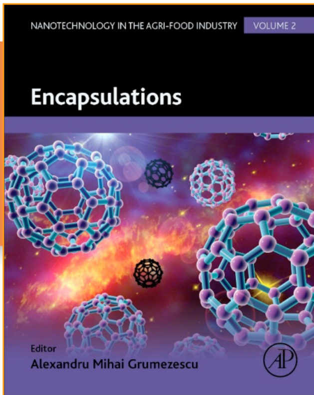
DESCRIPTION

Non-Bovine Milk and Milk Products presents a compiled and renewed vision of the knowledge existing as well as the emerging challenges on animal husbandry and non-cow milk production, technology, chemistry, microbiology, safety, nutrition, and health, including current policies and practices. Non-bovine milk products are an expanding means of addressing nutritional and sustainable food needs around the world. While many populations have integrated non-bovine products into their diets for centuries, as consumer demand and acceptance have grown, additional opportunities for non-bovine products are emerging. Understanding the proper chain of production will provide important insight into the successful growth of this sector. This book is a valuable resource for those involved in the non-cow milk sector, e.g. academia, research institutes, milk producers, dairy industry, trade associations, government, and policy makers.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Encapsulations, Vol 2

Alexandru Mihai Grumezescu Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804307-3

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 892

TRIM: 7.5w x 9.25h

AUDIENCE

Food engineers, bioengineers, researchers and professionals in microencapsulation industries, food biochemistry, graduate students, professionals, researchers, academic staff and students across all of food science

This helpful book covers the novel use of nanotechnology in encapsulation for food applications, nanoencapsulation processes, and materials used in nanoencapsulation assessing which applications are most beneficial to the food industry and providing useful tools to improve the delivery of bioactive molecules and living cells into foods

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

- Includes the most up-to-date information on nanoencapsulation and nanocontainer-based delivery of antimicrobials
- Presents nanomaterials for innovation based on scientific advancements in the field
- Provides control release strategies to enhance bioactivity, including methods and techniques for research and innovation
- Provides useful tools to improve the delivery of bioactive molecules and living cells into foods

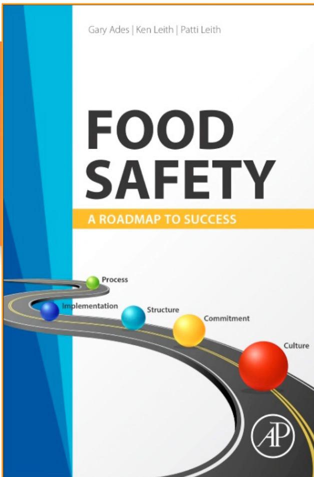
DESCRIPTION

Encapsulations, a volume in the *Nanotechnology in the Agri-Food Industry* series,presents key elements in establishing food quality through the improvement of food flavor and aroma. The major benefits of nanoencapsulation for food ingredients include improvement in bioavailability of flavor and aroma ingredients, improvement in solubility of poor water-soluble ingredients, higher ingredient retention during production process, higher activity levels of encapsulated ingredients, improved shelf life, and controlled release of flavor and aroma. This volume discusses main nanoencapsulation processes such as spray drying, melt injection, extrusion, coacervation, and emulsification. The materials used in nanoencapsulation include lipids, proteins, carbohydrates, cellulose, gums, and food grade polymers. Applications and benefits of nanoencapsulation such as controlled release, protections, and taste masking will be explained in detail.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Food Safety

A Roadmap to Success

Gary Ades G&L Consulting Group, LLC, Arkansas, USA
Ken Leith CEO, (e)Gauge, Inc., AR, USA
Patti Leith President and Managing Partner, EDGES, Inc., AR, USA

ISBN: 978-0-12-811189-5
PUB DATE: June 2016
FORMAT: Hardback
PAGES: c. 120
TRIM: 6w x 9h

AUDIENCE

Food safety professionals and managers across the food supply chain business, corporate executives in the food industry

Comprehensive roadmap for defining, developing, and implementing an effective food safety culture within an organization, including communication strategies

KEY FEATURES

- Provides practical information that helps readers determine which culture they currently have in their workplace
- Offers a framework to greatly reduce food safety risks
- Presents pertinent information in tables, outlining differences in approach by size and food industry segment
- Includes solid recommendations and further resources applicable to all levels within an organization to ensure success
- Covers fundamental principles of change management through open communication, education, and measurement implementation

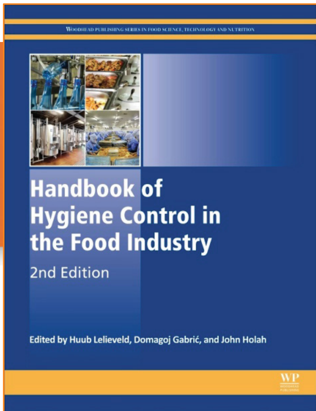
DESCRIPTION

Food Safety: A Roadmap to Success is a hands-on book that discusses the key pieces of the food safety puzzle, culture, management commitment, organizational structure, implementation, and the glue that holds it together, communication/education/training, influence, accountability, and metrics.

By utilizing this information, food safety professionals can protect their companies' brands, customers, and consumers, and get the resources (people, money, and departmental cooperation) they need to effectively do their jobs and be successful.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Handbook of Hygiene Control in the Food Industry, 2e

Edited by: ***H L M Lelieveld*** Global Harmonization Initiative (GHI), Vienna, Austria; European Hygienic Engineering and Design Group (EHEDG), Rotterdam, The Netherlands The Global Harmonization Initiative (GHI) is registered in Vienna, Austria; the European Hygienic Engineering and Design Group (EHEDG) in Rotterdam, the Netherlands; the European Federation of Food Science and Technology (EFFoST) in Wageningen, The Netherlands, International Union of Food Science and Technology (IUFoST) in Ontario, Canada; ***John Holah*** Holchem Laboratories, Ltd., Lancashire, UK; ***Domagoj Gabric*** FoodSciTech, Culemborg, Provincie Gelderland, The Netherlands

WOODHEAD PUBLISHING

ISBN: 978-0-08-100155-4

PREVIOUS EDITION ISBN: 9781855739574

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 736

TRIM: 8.5w x 10.875h

AUDIENCE

Food industry professionals, food scientists, food safety professionals/managers, food microbiologists, food engineers, public health/government officials

An authoritative reference on food safety and quality, this book presents the latest information on the complex issues surrounding food industry design, operations, and processes necessary to improve best practices in hygiene

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Presents the latest research and development in the field of hygiene, offering a broad range of the microbiological risks associated with food processing
- Provides practical hygiene related solutions in food facilities to minimize foodborne pathogens and decrease the occurrence of foodborne disease
- Includes the latest information on biofilm formation and detection for prevention and control of pathogens as well as pathogen resistance

DESCRIPTION

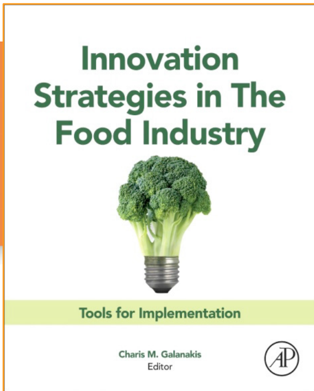
Handbook of Hygiene Control in the Food Industry, Second Edition, continues to be an authoritative reference for anyone who needs hands-on practical information to improve best practices in food safety and quality.

The book is written by leaders in the field who understand the complex issues of control surrounding food industry design, operations, and processes, contamination management methods, route analysis processing, allergenic residues, pest management, and more.

Professionals and students will find a comprehensive account of risk analysis and management solutions they can use to minimize risks and hazards plus tactics and best practices for creating a safe food supply, farm to fork.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Innovation Strategies in the Food Industry

Tools for Implementation

Edited by: ***Charis Michael Galanakis*** Galanakis Laboratories, Chania, Greece

ISBN: 978-0-12-803751-5
PUB DATE: June 2016
FORMAT: Paperback
PAGES: c. 318
TRIM: 7.5w x 9.25h

AUDIENCE

Food scientists, food engineers, process engineers, bioengineers, food technologists, R&D professionals in food, grad students

Explore innovation by increasing your understanding of cutting-edge technologies through real world examples

KEY FEATURES

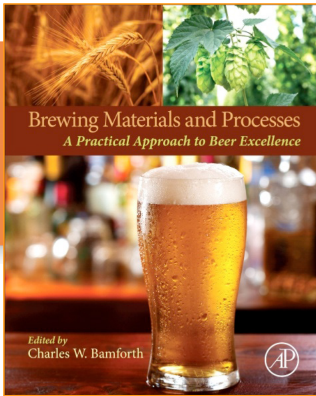
- Reports the development of cooperative networks for the commercialization of new food products
- Includes the concept of open innovation, denoting the particular issues that SMEs are facing during their innovation efforts and suggest respective innovation policies in the agrifood sector
- Discusses the challenges of introducing innovations in traditional food products
- Describes the sustainability problems and restrictions (safety and energy issues) of innovations in food processing and emerging technologies
- Exploits the cutting-edge innovation cases of food science and their applications in the food industry
- Addresses the observed problems and provides solutions to meet market and consumers' needs

DESCRIPTION

Innovation Strategies in the Food Industry: Tools for Implementation is an indispensable resource for the food industry to introduce innovations in the market, stand out from the competition and satisfy consumer demands. This reference reports the most trend advances of the food science, while providing insights and ideas to overcome limitations for their actual implementation in the industry. *Innovation Strategies in the Food Industry: Tools for Implementation* fills the gap between strategy developers and technical R&D associates by interpreting the technological adequacy of innovative techniques with the reaction of related consumers. It deals with the interaction of academia and industry, describing innovation and long term R&D strategies to overcome bottlenecks during know-how transfer between these two sectors.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Brewing Materials and Processes

A Practical Approach to Beer Excellence

Edited by: ***Charles Bamforth*** Department of Food Science and Technology, University of California Davis, Davis, CA, USA

ISBN: 978-0-12-799954-8

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 348

TRIM: 7.5w x 9.25h

AUDIENCE

Brewers and R&D professionals in industry, researchers and students in brewing and fermentation sciences

Presents the impact of raw materials and processing on beer production using an approach that focuses on specific challenges and goals

KEY FEATURES

- Focuses on the practical approach to delivering beer quality, beginning with raw ingredients
- Includes an analytical perspective for each element, giving the reader insights into its role and impact on overall quality
- Provides a hands-on reference work for daily use
- Presents an essential volume in brewing education that addresses areas only lightly covered elsewhere

DESCRIPTION

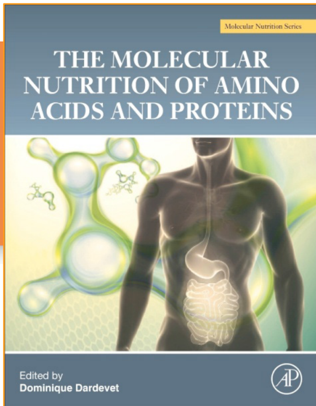
Brewing Materials and Processes: A Practical Approach to Beer Excellence presents a novel methodology on what goes into beer and the results of the process. From adjuncts to yeast, and from foam to chemometrics, this unique approach puts quality at its foundation, revealing how the right combination builds to a great beer. Based on years of both academic and industrial research and application, the book includes contributions from around the world with a shared focus on quality assurance and control.

Each chapter addresses the measurement tools and approaches available, along with the nature and significance of the specifications applied. In its entirety, the book represents a comprehensive description on how to address quality performance in brewing operations.

Understanding how the grain, hops, water, gases, worts, and other contributing elements establish the framework for quality is the core of ultimate quality achievement. The book is ideal for users in corporate R&D, researchers, students, highly-skilled small-scale brewers, and those seeking an understanding on how the parts impact the whole in beer production, providing them with an ideal companion to complement *Beer: A Quality Perspective.*

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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The Molecular Nutrition of Amino Acids and Proteins

A Volume in the Molecular Nutrition Series

Edited by: ***Dominique Dardevet*** Institut National de la Recherche Agronomique (INRA), France

This thorough reference on amino acids and proteins will help researchers and graduate students alike gain a more complete understanding of all amino acids and their role in molecular nutrition

ISBN: 978-0-12-802167-5

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 354

TRIM: 8.5w x 10.875h

AUDIENCE

PRIMARY AUDIENCE: Nutrition researchers, graduate students in molecular nutrition programs, molecular biologists and chemists studying proteins and amino acids. SECONDARY AUDIENCE: clinicians, health professionals, and dieticians working in cross-functional teams, epidemiologists and public health professionals.

KEY FEATURES

- Provides a gentle introduction to the subject by first addressing nutritional information and then building in molecular aspects, clearly establishing fundamental information for the reader
- Facilitates reader comprehension by including succinct summary points in each chapter
- Contains a glossary of definitions that allows readers to easily reference terms
- Provides both a deep and broad understanding of the subject by containing overviews as well as detail-focused chapters

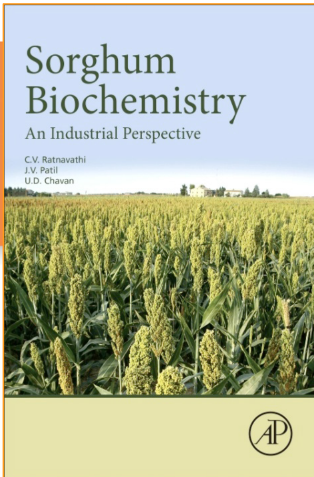
DESCRIPTION

The Molecular Nutrition of Amino Acids and Proteins provides an in-depth look at the involvement and role of amino acids and proteins in molecular nutrition. Editor Dominique Dardevet has assembled a collection of chapters written by leading researchers and top professors that provide the reader with a comprehensive understanding of amino acids and proteins.

The book provides an introduction to the fundamentals of amino acids and proteins as well as the composition of food. It then delves into the molecular biology of the cell and genetic machinery and its function. *The Molecular Nutrition of Amino Acids and Proteins* also features reference guides for terms and bullet-point summaries, making it readily accessible to novices while still providing the most up-to-date and detailed information that experienced researchers need.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Sorghum Biochemistry: An Industrial Perspective

CV Ratnavathi Principal Scientist, Biochemistry and PI of NFBSFARA project on sweet sorghum, PI of DBT funded project on functional foods of sorghum
Jagannath Vishnu Patil Director, Research Management, Directorate of Sorghum Research, Hyderabad (ICAR)
UD Chavan Senior Cereal Food Technologist, Department of Food Science and Technology, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dist, Ahmednagar, Maharashtra

This helpful guide explores the many uses for sorghum in industry and biofuels featuring a detailed examination of the physical and biochemical qualities of the grain, the role sorghum plays in industries like brewing and ethanol production, and the mechanics of post-harvest processing and value addition

ISBN: 978-0-12-803157-5
PUB DATE: June 2016
FORMAT: Paperback
PAGES: c. 344
TRIM: 6w x 9h

AUDIENCE

Researchers involved in postharvest technology and value addition, cereal chemists and also pathologists and toxicologists. This can also be a reference book for students doing post graduate study in post-harvest technology and food science, food processing technology

KEY FEATURES

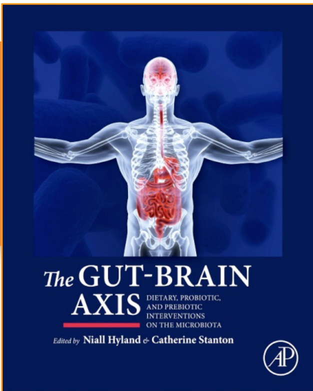
- Provides detailed biochemical studies on grain sorghum to inform researchers grappling with similar issues
- Offers foundational information on the quality and composition of sorghum as a grain
- Covers a variety of uses for sorghum in many industries, including food and beverage, energy, and brewing
- Includes photos and illustrations to enhance the understanding of processes and sorghum biochemistry

DESCRIPTION

Sorghum Biochemistry: An Industrial Perspective explores the many uses for sorghum in industry and biofuels. Not only does it offer a detailed understanding of the physical and biochemical qualities of the grain, it also takes an in-depth look at the role sorghum plays in such industries as brewing and ethanol production and the mechanics of post-harvest processing and value addition.

Sorghum has long been an important staple in Africa and Asia, but its value goes far beyond its uses in human and animal consumption. Sorghum is also used in many industries, including waxes, packing material, wall board, ethanol, beverages, and brewing, and one variety called sweet sorghum has also been used as a bioenergy crop. *Sorghum Biochemistry: An Industrial Perspective* offers a closer look at how the grain is used in such a variety of ways, and how we can continue to optimize its potential.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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The Gut-Brain Axis

Dietary, Probiotic, and Prebiotic Interventions on the Microbiota

Edited by: ***Niall Hyland*** Department of Pharmacology & Therapeutics Faculty, APC Microbiome Institute, University College Cork, Cork, Ireland
Catherine Stanton Teagasc Moorepark Food Research Centre, Moorepark, Fermoy, Co. Cork, Cork, Ireland

This cutting-edge book explores how diet, probiotics, and prebiotics can help modulate the microbiome and how such interventions can impact the gut-brain axis. Examines the potential for microbial manipulation as a therapeutic avenue in central nervous system disorders in which an altered microbiota has been implicated.

ISBN: 978-0-12-802304-4
PUB DATE: June 2016
FORMAT: Hardback
PAGES: c. 484
TRIM: 7.5w x 9.25h

AUDIENCE

Professors, Associate Professors, PostDocs, Graduate Students, and Team Leaders researching: Gut-brain axis, Neuro-Gastroenterology, Microbiology, Nutrition, Food Science, Psychiatry, Behavioral Sciences, Neuroscience, Translational Research

KEY FEATURES

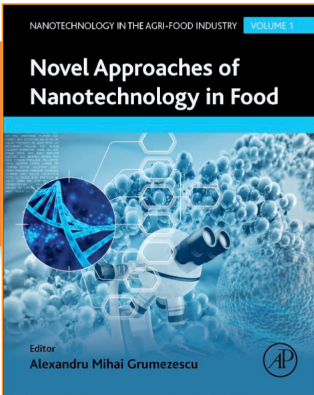
- Focuses on specific areas in which the microbiota has been implicated in gut-brain communication
- Examines common mechanisms and pathways by which the microbiota may influence brain and behavior
- Identifies novel therapeutic strategies targeted toward the microbiota in the management of brain activity and behavior

DESCRIPTION

The Gut-Brain Axis: Dietary, Probiotic, and Prebiotic Interventions on the Microbiota examines the potential for microbial manipulation as a therapeutic avenue in central nervous system disorders in which an altered microbiota has been implicated, and explores the mechanisms, sometimes common, by which the microbiota may contribute to such disorders.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Novel Approaches of Nanotechnology in Food, Vol 1

Edited by: ***Alexandru Mihai Grumezescu*** Assistant Professor, Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science and Faculty of Medical Engineering, Politehnica University of Bucharest, Romania

ISBN: 978-0-12-804308-0

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 744

TRIM: 7.5w x 9.25h

AUDIENCE

professionals, researchers, academic staff and students across all of food science

This comprehensive book offers an overview of the potential applications of nanotechnology in food science and industry, discussing potential advancements of nanotechnology in the food industry and providing a reference for how novel approaches to nanotechnology can advance all of food science through proven research results and industrial applications

A Volume in the Nanotechnology in the Agri-Food Industry Series.

KEY FEATURES

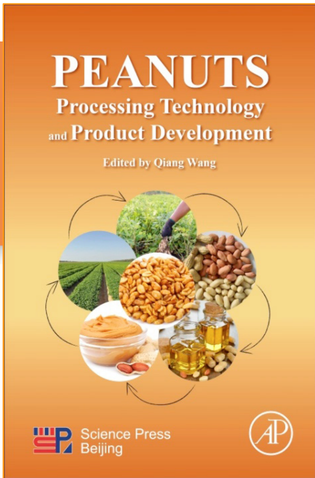
- Provides worldwide research applications of nanomaterials and nanotechnology useful in food research
- Presents analytical methods for enzyme immobilization onto magnetic nanoparticles
- Includes strategies of behavior and structure function to increase application enhancement and control
- Discusses nanomaterial regulations and for consumer protection awareness

DESCRIPTION

Novel Approaches of Nanotechnology in Food, a volume in the *Nanotechnology in the Agri-Food Industry* series, represents a summary of the most recent advances made in the field of nanostructured materials that have significant impact on the agri-food industry. Because the current food market needs innovation, nanotechnology coupled with novel interdisciplinary approaches and processing methods has enabled important advances that have the potential to revolutionize agri-food sector. Nanotechnology can serve to resolve challenges faced by the food and bioprocessing industries for developing and implementing systems that can produce qualitative and quantitative foods that are safe, sustainable, and ecofriendly. This book is a valuable resource for scientists, researchers, and engineers in food science and biotechnology fields, as well as students who want information on cutting-edge technologies.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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ISBN: 978-0-12-809595-9

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 380

TRIM: 6w x 9h

AUDIENCE

Students majoring in food science and engineering; researchers and scientists in grain and oil processing; technicians in peanut process industries.

Peanuts: Processing Technology and Product Development

Edited by: ***Qiang Wang*** Deputy Director of the Institute of Agro-products Processing Science and Technology, Chinese Academy of Agricultural Sciences, Director of the National Agro-products Processing Research and Development Center

This book provides an overall review of the latest advanced theories and technologies in the production and processing of peanuts and their by-products, also including processing progress and peanut related product production technologies.

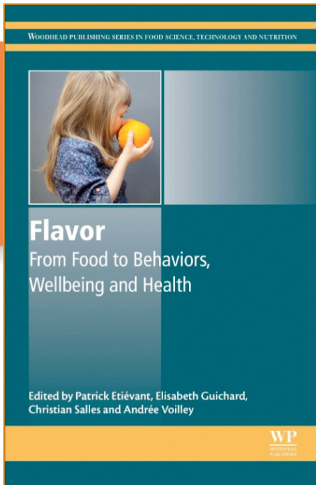
KEY FEATURES

- Provides the latest worldwide research in the field of peanut production and processing, incorporating the author's research findings on new product development
- Presents technologies that have already been partly or fully applied in the peanut industry, providing effective guidance for the processing of peanuts and their by-products
- Includes topics on peanut production, peanut research progress, main peanut components, raw material quality evaluation, processing and utilization of peanut products (oil, protein), and by-products (peptide, polyphenol, polysaccharide, dietary fiber)

DESCRIPTION

Peanuts: Processing Technology and Product Development provides an overall review of the latest peanut and peanut-related research development worldwide, including not only peanut production and processing progress, but also peanut-related product (oil, protein) production technologies, and by-products utilization technologies (peptides, polyphenol, polysaccharide, and dietary fiber).

The book focuses on technology practicability, and all the technologies introduced, have been partly or fully applied. It is a valuable book and important reference for technicians and R and D persons in the peanut processing industry, and can also be used as a reference book for professional teaching and scientific research in the field of food science and engineering.



Flavor

From Food to Behaviors, Wellbeing and Health

Edited by: ***P Etievant*** Director of the Nutrition, Chemical, Food Safety and Consumer Behaviour Divisions, The French National Institute for Agronomic Research (INRA); ***Elisabeth Guichard*** Head of Flavour Vision and Consumer Behaviour, The French National Institute for Agronomic Research (INRA); ***Christian Salles*** Senior Researcher, Flavour Vision and Consumer Behaviour division, The French National Institute for Agronomic Research (INRA); ***Andree Voilley*** Molecular and Food Engineering Research Group, Ecole Nationale Supérieure de la Biologie Appliquée à la Nutrition et l'Alimentation (ENSBANA), Université de Bourgogne, France

This comprehensive edited volume explains the different mechanisms of flavor perception from food ingestion to sensory image integration that includes a multidisciplinary approach that discussing chemistry and biochemistry, psychology, neurobiology, and sociology as well as the influence of age, physiological disorders, and social environments

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100295-7

PUB DATE: May 2016

FORMAT: Hardback

PAGES: c. 416

TRIM: 6w x 9h

AUDIENCE

Academics working in the areas of sensory science, food quality, nutrition and human sciences; R&D professionals in food companies working to develop foods and nutritionists.

KEY FEATURES

- Uniquely brings together multidisciplinary fields to explain, in a narrative structure, how flavor compounds may modulate food intake and behavior
- Includes discussions of chemistry and biochemistry, psychology, neurobiology, and sociology
- Presents an extremely current view that offers a wide perspective on flavor, an area of rapidly expanding knowledge
- Edited by renowned experts in the field of flavor perception

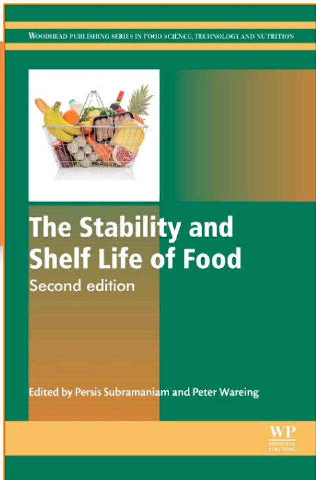
DESCRIPTION

Flavor: From Food to Behaviors, Wellbeing and Health is the first single-volume resource focused on the different mechanisms of flavor perception from food ingestion, to sensory image integration and the physiological effects that may explain food behaviors.

The information contained is highly multidisciplinary, starting with chemistry and biochemistry, and then continuing with psychology, neurobiology, and sociology. The book gives coherence between results obtained in these fields to better explain how flavor compounds may modulate food intake and behavior.

When available, physiological mechanisms and mathematical models are explained. Since almost half a billion people suffer from obesity and food related chronic diseases in the world, and since recent research has investigated the possible roles of pleasure linked to the palatability of food and eating pleasure on food intake, food habits, and energy regulation, this book is a timely resource on the topic.

This book links these results in a logical story, starting in the food and the food bolus, and explaining how flavor compounds can reach different receptors, contribute to the emergence of a sensory image, and modulate other systems recognized as controlling food intake and food behavior. The influence of age, physiological disorders, or social environments are included in this approach since these parameters are known to influence the impact of food flavor on human behavior.



The Stability and Shelf Life of Food, 2e

Edited by: ***P Subramaniam*** Leatherhead Food Research, UK
Peter Wareing Principal Food Safety Advisor, Leatherhead Food Research, UK

A new edition of a highly successful book covering the stability and shelf-life of foods and beverages with a focus on processes, evaluation and product specific deterioration

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

ISBN: 978-0-08-100435-7

PREVIOUS EDITION ISBN: 978-1-85573-500-2

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 586

TRIM: 6w x 9h

AUDIENCE

Product Development Managers working within the food industry; Technical Managers in the food industry; Quality Control Managers and Personnel in the food industry; Academics working in the area of food quality research.

KEY FEATURES

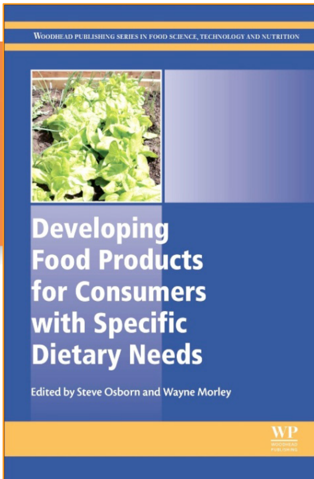
- Thoroughly revised and updated edition of a very popular and well regarded book
- Includes dedicated chapters covering the shelf-life and stability of specific products making this book ideal for those working in industry
- Presents a wide coverage of the processes and factors influencing shelf-life, the evaluation of stability and shelf-life and the stability and shelf-life of particular products makes this book valuable for both academics and those working in industry

DESCRIPTION

The second edition of *The Stability and Shelf-life of Food* is a fully revised and thoroughly updated edition of this highly-successful book. This new edition covers methods for shelf-life and stability evaluation, reviewing the modelling and testing of the deterioration of products as well as the use of sensory evaluation methods for testing food spoilage.

The first part of the book focuses on deteriorative processes and factors influencing shelf-life, covering aspects such as chemical deterioration, physical instability and microbiological spoilage. The effects of process and packaging on the stability and shelf-life of products are also covered in this part. Part Two reviews the methods for shelf life and stability evaluation. These include sensory evaluation methods and instrumental methods to determine food quality deterioration. The final section of the book covers stability of important ingredient categories, from oils and fats, to beverages such as beer, wine, coffee and fruit juices, in addition to bakery products and meats.

With updated chapters reflecting advances made in the field and with the addition of new chapters covering the stability and shelf-life a variety of products, this new edition will provide the latest research for both academics working in the field of food quality as well as providing essential information for food scientists working in industry.



Developing Food Products for Consumers with Specific Dietary Needs

Edited by: ***Steve Osborn*** Principal Consultant, Aurora Ceres Partnership, UK
Wayne Morley Group Head of Technical Innovation, 2 Sisters Food Group, UK

WOODHEAD PUBLISHING

ISBN: 978-0-08-100329-9

PUB DATE: May 2016

FORMAT: Hardback

PAGES: c. 274

TRIM: 6w x 9h

AUDIENCE

Industry professionals working in new product development, research and development and marketing, as well as academics working in food development

As a best practice approach to developing foods for customers with specific dietary needs, this book explains the process of creating products for those whose specific dietary needs have emerged in recent decades due to the growth in medical conditions related to food intake

KEY FEATURES

- Provides an overview of the organizational structure required within a company to develop foods for specific customer needs
- Includes section on the development of low-sodium, low-sugar, low-fat, and low-carbohydrate products with the aim of producing healthier foods
- Presents case studies that deliver a best practice view on developing foods for customers with specific dietary needs
- Written by industry professionals, this book offers in-depth coverage of this topic of ever increasing importance to the food industry

DESCRIPTION

Developing Food Products for Customers with Specific Dietary Needs explains the process for developing foods for customers who have specific dietary needs, further shining a light on the number of increasing medical conditions related to food intake that have emerged in the past few decades.

From increased fat and sugar intake leading to higher levels of obesity, to greater levels of coeliac disease, the ingredients and nutritional content of food is becoming more and more important. Additionally, consumers are following particular diets for many different reasons, be it health related, or for religious or moral reasons.

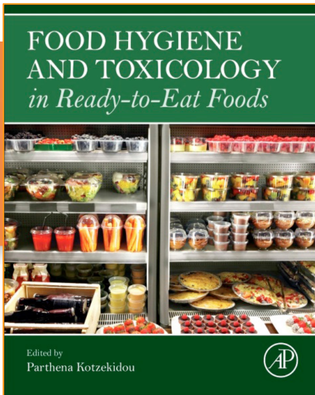
The first part of the book looks, in detail, at the organizational structure required within a company to allow for the development of food products which meet the needs of these customers, while the second part presents a number of case studies highlighting the development of food products for various dietary requirements.

Precise coverage includes section on the development of low-sodium, low-sugar, low-fat, and low-carbohydrate products with the aim of producing healthier foods, as well as the development of organic and vegetarian products for consumers who are following diets for personal reasons.

The potential solutions for developing foods for customers who have specific dietary needs are likely to include both ingredients and technology developments. The ingredients area includes simple reductions as well as replacement strategies, whilst technology will be applied to both the ingredient itself and the host food product. All are aimed at maintaining the product quality as perceived by the customer.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Food Hygiene and Toxicology in Ready to Eat Foods

Edited by: ***Parthena Kotzekidou*** Professor of Food Microbiology, Department of Food Science and Technology, Faculty of Agriculture, Aristotle University of Thessaloniki, Greece

Incorporating real life examples for microbiological risk assessment and reduction in the food industry, this detailed reference shares the latest research and advances in infectious and noninfectious hazards of ready-to-eat and minimally processed foods along with strategies for avoiding cross contamination

ISBN: 978-0-12-801916-0

PUB DATE: May 2016

FORMAT: Hardback

PAGES: c. 454

TRIM: 7.5w x 9.25h

AUDIENCE

Food industry professionals: food scientists; food safety professionals, food microbiologists, food technologists; public health workers.

KEY FEATURES

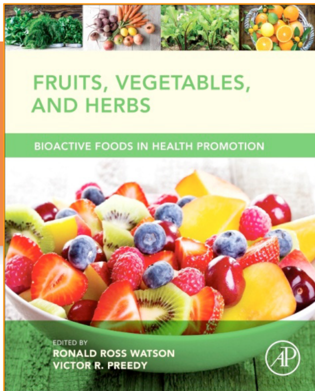
- Provides the latest on research and development in the field of food safety incorporating practical real life examples for microbiological risk assessment and reduction in the food industry
- Includes specific aspects of potential contamination and the importance of various risks associated with ready-to-eat foods
- Describes potential harmful agents that may arise in foods during processing and packaging
- Presents information on psychrotropic pathogens and food poisoning strains, effect of temperature, *Salmonella*, *Listeria*, *Escherichia coli*, *Bacillus cereus*, *Norovirus*, parasites, fungal microbiota, enterotoxins, and more

DESCRIPTION

Food Hygiene and Toxicology in Ready-to-Eat Foods is a solid reference for anyone in the food industry needing to understand the complex issues and mechanisms of biological control and chemical hazards to ensure food safety. infectious and non-infectious contaminants in raw, minimally processed, and prepared foods are covered in detail, as well as effective measures to avoid foodborne infections and intoxications. The book is written by an international team of experts presenting the most up-to-date research in the field, and provides current applications and guidance to enhance food safety in the food industry. Strategies and recommendations for each food category include, among others, how to avoid cross-contamination of pathogens, the proper uses of antimicrobial coatings and spray cleanings of fresh produce, and acrylamide reduction during processing. leafy vegetables, fruit juices, nuts, meat and dairy products are some of the ready-to-eat foods covered.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Fruits, Vegetables, and Herbs

Bioactive Foods in Health Promotion

Edited by: ***Ronald Watson*** Mel and Enid Zuckerman College of Public Health, and School of Medicine, University of Arizona, Tucson, AZ, USA
Victor R. Preedy Department of Dietetics, King's College London, UK

ISBN: 978-0-12-802972-5
PUB DATE: May 2016
FORMAT: Hardback
PAGES: c. 594
TRIM: 7.5w x 9.25h

AUDIENCE

nutrition researchers and food scientists, technologists, food processors and product developers, public health researchers

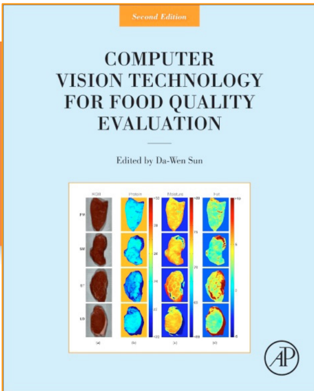
This timely book offers a complete science-based appraisal of the efficacy of using fruits, vegetables, and herbs in health, nutrition, and disease prevention, containing valuable conclusions and recommendations helpful for further research into antioxidants, phytochemicals, and bioflavonoids—the bioactive components of fruits, vegetables, and herbs

KEY FEATURES

- Provides insight on bioactive constituents found in fruits and vegetables that can be further studied to improve health and disease resistance or incorporated into other food products and used as alternative medicines and dietary supplements
- Includes valuable information on how fruits are important sources of bioflavonoids and nonnutritive bioactives that modify body functions
- Offers a conclusion or summary of evidence at the end of each chapter to enhance understanding of new approaches in the field

DESCRIPTION

Fruits, Vegetables, and Herbs: Bioactive Foods in Health Promotion brings together experts from around the world working on the cutting edge of research on fruit, vegetables, and herbs in health promotion. Offering a timely, concise, scientific appraisal of the efficacy of key foods to prevent disease and improve the quality of life, ***Fruits, Vegetables, and Herbs: Bioactive Foods in Health Promotion*** provides valuable evidence-based conclusions and recommendations. This reference text will encourage further research on the potential benefits of fruits and vegetables in health and disease prevention, providing a basis for possible dietary modifications by the government and the public.



Computer Vision Technology for Food Quality Evaluation, 2e

Edited by: ***Da-Wen Sun*** Professor of Food and Biosystems Engineering, South China University of Technology, China, and University College Dublin (UCD), Ireland

ISBN: 978-0-12-802232-0

PREVIOUS EDITION ISBN: 978-0-12-373642-0

PUB DATE: April 2016

FORMAT: Hardback

PAGES: c. 636

TRIM: 7.5w x 9.25h

AUDIENCE

Engineers and technologists working in research and development and operations within the food industry, instructors and students in food engineering and food technology

Provides engineers, researchers, technologists and students readily accessible information to develop an efficient method for food quality assessment

KEY FEATURES

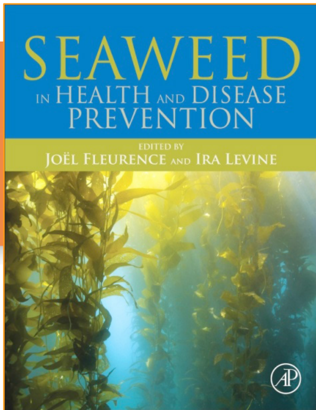
- Thoroughly explains what computer vision technology is, what it can do, and how to apply it for food quality evaluation
- Includes a wide variety of computer vision techniques and applications to evaluate a wide variety of foods
- Describes the pros and cons of different techniques for quality evaluation

DESCRIPTION

Computer Vision Technology for Food Quality Evaluation, Second Edition continues to be a valuable resource to engineers, researchers, and technologists in research and development, as well as a complete reference to students interested in this rapidly expanding field. This new edition highlights the most recent developments in imaging processing and analysis techniques and methodology, captures cutting-edge developments in computer vision technology, and pinpoints future trends in research and development for food quality and safety evaluation and control. It is a unique reference that provides a deep understanding of the issues of data acquisition and image analysis and offers techniques to solve problems and further develop efficient methods for food quality assessment.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Seaweed in Health and Disease Prevention

Edited by: ***Joël Fleurence*** Professor of Marine Biology and Biochemistry, Laboratory "Sea, Molecules, Health", University of Nantes, Nantes, France
Ira Levine Professor of Natural and Applied Sciences, University of Southern Maine, Lewiston, ME, USA

ISBN: 978-0-12-802772-1

PUB DATE: April 2016

FORMAT: Hardback

PAGES: c. 456

TRIM: 8.5w x 10.875h

AUDIENCE

food scientists/ technologists, nutraceutical/supplement product developers. Libraries for researchers, graduate students and fellows in Food Science, Aquaculture, Health, and Nutrition.

Outlining how seaweed can be used as a source of macronutrients and micronutrients as well as nutraceuticals, this novel reference presents the potential for seaweed, macroalgae, and their extracts to enhance health and treat disease

KEY FEATURES

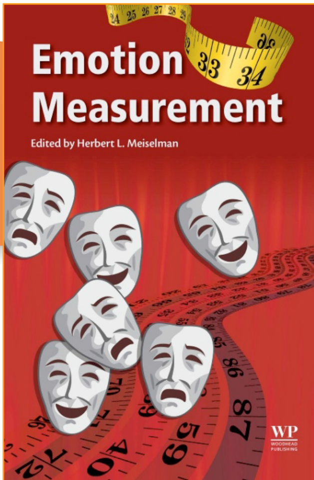
- Combines foundational information and nutritional context, offering a holistic approach to the relationship between sea vegetables, diet, nutrition, and health
- Provides comprehensive coverage of health benefits, including sea vegetables as sources of nutraceuticals and their specific applications in disease prevention, such as angiogenesis, diabetes, fungal infections, and others
- Includes Dictionary of Terms, Key Facts, and Summary points in each chapter to enhance comprehension
- Includes information on toxic varieties and safe consumption guidelines to supplement basic coverage of health benefits

DESCRIPTION

Seaweed in Health and Disease Prevention presents the potential usage of seaweed, macroalgae, and their extracts for enhancing health and disease. The book explores the possibilities in a comprehensive way, including outlining how seaweed can be used as a source of macronutrients and micronutrients, as well as nutraceuticals. The commercial value of seaweed for human consumption is increasing year-over-year, and some countries harvest several million tons annually. This text lays out the properties and effects of seaweeds and their use in the food industry, offering a holistic view of the ability of seaweed to impact or effect angiogenesis, tumors, diabetes and glucose control, oxidative stress, fungal infections, inflammation and infection, the gut, and the liver.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Emotion Measurement

Edited by: ***Herbert L Meiselman*** Internationally known expert and consultant in sensory and consumer research, product development and food service system design and evaluation based in the USA

WP
WOODHEAD
PUBLISHING

A practical guide to the applied and academic methods of emotion measurement for food and sensory scientists, product development managers, and product development practitioners in industry

ISBN: 978-0-08-100508-8

PUB DATE: April 2016

FORMAT: Hardback

PAGES: c. 726

TRIM: 6w x 9h

AUDIENCE

Food and Consumer Product Scientists, academic researchers studying emotions, sensory & consumer insight managers & Scientists, psychologists & psychology Students and marketing managers.

KEY FEATURES

- Serves as the first book on the market on emotion measurement aimed at sensory scientists and production development practitioners working in commercial R and D
- Also useful for psychologists with an interest in emotion
- Brings together applied and academic strands of emotion measurement research for the first time
- Focuses on cross-cultural studies of emotions, which is currently lacking from most of the literature in the field

DESCRIPTION

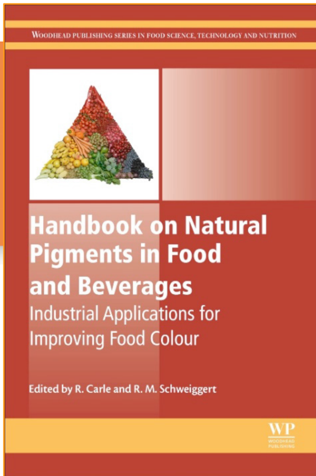
Emotion Measurement reviews academic and applied studies in order to highlight key elements of emotions which should be considered in the development and validation of newer commercial methods of emotion measurement. The goal of the book is practical, but the approach will be both academic and applied. It is aimed primarily at sensory scientists and the product developers they work alongside who require knowledge of measuring emotion to ensure high levels of consumer acceptability of their products.

The book begins with a review of basic studies of emotion, including the theory, physiology, and psychology of emotions – these are the standard studies of which food and sensory scientists as well as product developers need to be aware. The next section highlights methods for studying emotions on a relatively basic level. The book then moves to practical applications, with chapters on emotion research in food and beverage, as well as in a range of product and clinical settings. Finally, there is a treatment of cross-cultural research on emotions. This is critical because much of the newer commercial research is aimed at markets around the world, requiring methods which work in many cultures. The book ends with an integrative summary of the material presented.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Handbook on Natural Pigments in Food and Beverages

Industrial Applications for Improving Food Color

Edited by: ***Reinhold Carle*** Professor, Department of Plant Foodstuff Technology, University of Hohenheim, Germany
Ralf Schweiggert Post-Doctoral Researcher, Department of Plant Foodstuff Technology, University of Hohenheim, Germany

WP
WOODHEAD PUBLISHING

ISBN: 978-0-08-100371-8

PUB DATE: April 2016

FORMAT: Hardback

PAGES: c. 510

TRIM: 6w x 9h

AUDIENCE

R&D staff working within food companies and academics (Professors, research staff, teaching staff, postgraduate students).

As an essential volume in detailing the use of natural food colorants on a product by product basis, this book is written with industrial applications in mind, with each chapter focusing on a color solution for a specific commodity that will provide food scientists with a one-stop, comprehensive reference on how to improve the color of a particular food product

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

- Presents recent advances in consumer demand and worldwide legislation regarding natural food colorants
- Discusses the use of natural food colorants for one specific product category per chapter rather than one pigment class per chapter – this makes the book extremely useable for industrialists working in a specific sector
- Contains a comprehensive array of product-specific coloration approaches, from using pigment-enriched feed additives to the direct addition of color formulations

DESCRIPTION

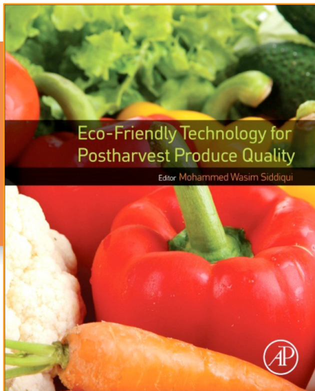
Handbook on Natural Pigments: Industrial Applications for Improving Food Colour is unique in its approach to the improvement of food colors. The book is written with industrial applications in mind, with each chapter focusing on a color solution for a specific commodity that will provide food scientists with a one-stop, comprehensive reference on how to improve the color of a particular food product.

The first section of the book looks at the legal frameworks which underpin natural food colorings, also investigating the consumer expectations of food color. The second section of the book focuses on specific industrial applications of natural colorants with chapters covering the use of natural colorants in aqueous food products, cereal-based foods, and meat products, amongst many other topics.

The various pigments which can be used to effectively color these commodities are presented with information on safety and testing included throughout. The final section in the book looks at recent developments and future perspectives in natural food colorings. There are chapters which cover the health benefits of natural pigments, the use of novel fruits and vegetables in pigments, and stable natural solutions for blue colorings.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Eco-Friendly Technology for Postharvest Produce Quality

Edited by: ***Mohammed Wasim Siddiqui*** Assistant Professor and Scientist, Department of Food Science and Post-Harvest Technology, Bihar Agricultural University, Sabour, India

ISBN: 978-0-12-804313-4

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 304

TRIM: 7.5w x 9.25h

AUDIENCE

Professionals working in the postharvest industry, postharvest technologists, fresh produce management, food safety and quality professionals, postharvest physiologists, professionals working in the research for developing new technologies, graduate students

This valuable resource assesses emerging eco-friendly technologies for maintaining the postharvest quality of fresh produce analyzing alternative and traditional methodologies and highlighting the advantages and limitations of each

KEY FEATURES

- Includes appropriate approaches, technologies, and control parameters necessary to achieve shelf-life extension without compromising produce quality
- Presents successful food safety methods between the time produce is harvested to consumption
- Includes the latest information on preservation technologies using novel chemical methods, active packaging, and monitoring the effect of environmental stresses on quality and shelf life of agricultural produce

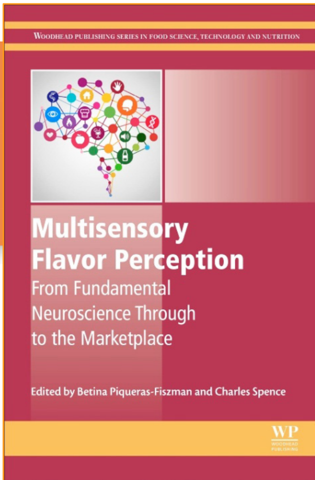
DESCRIPTION

Eco-Friendly Technology for Postharvest Produce Quality presents the scope of emerging eco-friendly technologies to maintain the postharvest quality of fresh produce in terms of safety and nutrition. The book covers an analysis of the alternative and traditional methodologies pointing out the significant advantage and limitations of each technique. It provides a standard reference work for the fresh produce industry in postharvest management to extend shelf life by ensuring safety first and then nutritional or sensory quality retention.

Fruits and vegetables are a huge portion of the food supply chain and are depended on globally for good health and nutrition. The supply of good food, however, greatly depends on good postharvest handling practices. Although substantial research has been carried out to preserve the quality of fresh horticultural produce, further research—especially on safety—is still required. This book provides foundational insights into current practices yielding best results for produce handling.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Multisensory Flavor Perception

From Fundamental Neuroscience Through to the Marketplace

Edited by: ***Betina Piqueras-Fiszman*** Assistant Professor, Marketing and Consumer Behaviour group, Wageningen University, Netherlands
Charles Spence Professor, University of Oxford, UK

WOODHEAD PUBLISHING

ISBN: 978-0-08-100350-3
PUB DATE: April 2016
FORMAT: Hardback
PAGES: c. 344
TRIM: 6w x 9h

AUDIENCE

Food scientists, academic researchers studying multimodal responses, sensory and consumer insight managers and scientists, psychologists and psychology students, as well as marketers and marketing managers in food companies.

As a pioneering examination of the latest insights from the rapidly-expanding world of multisensory flavor research, this book provides state-of-the-art coverage of the latest research, highlighting the various types of crossmodal interactions such as sound and taste and vision and taste, and showing their impact on sensory and hedonic perception

A Volume in the Woodhead Publishing Series in Food Science, Technology and Nutrition.

KEY FEATURES

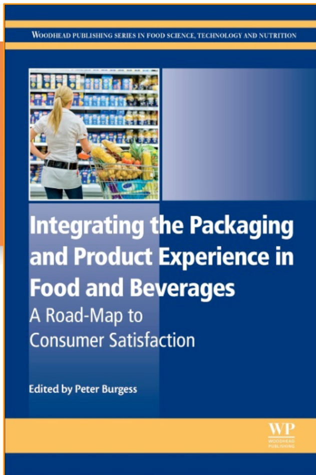
- Authored by top academics and world leaders in the field
- Takes readers on a journey from the neurological underpinnings of multisensory flavor perception, then presenting insights that can be used by food companies to create better flavor sensations for consumers
- Offers a wide perspective on multisensory flavor perception, an area of rapidly expanding knowledge

DESCRIPTION

Multisensory Flavor Perception: From Fundamental Neuroscience Through to the Marketplace provides state-of-the-art coverage of the latest insights from the rapidly-expanding world of multisensory flavor research. The book highlights the various types of crossmodal interactions, such as sound and taste, and vision and taste, showing their impact on sensory and hedonic perception, along with their consumption in the context of food and drink.

The chapters in this edited volume review the existing literature, also explaining the underlying neural and psychological mechanisms which lead to crossmodal perception of flavor. The book brings together research which has not been presented before, making it the first book in the market to cover the literature of multisensory flavor perception by incorporating the latest in psychophysics and neuroscience.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Integrating the Packaging and Product Experience in Food and Beverages

A Road-Map to Consumer Satisfaction

Edited by: ***Peter Burgess*** Head of Department for Consumer and Sensory Sciences, Campden BRI, UK Campden BRI, Chipping Campden, United Kingdom

WOODHEAD PUBLISHING

ISBN: 978-0-08-100356-5

PUB DATE: April 2016

FORMAT: Hardback

PAGES: c. 192

TRIM: 6w x 9h

AUDIENCE

Consumer and sensory scientists, researchers and academics in the areas of food science, packaging development, product design, new product marketing managers and packaging designers for fast-moving consumer goods (FMCGs)

Focusing on the inter-relationship between packaging design and product experience this practical guide for product developers and marketers includes an extensive overview of an adapted satisfaction scale, tailored for the food and beverage sector, which identifies varying satisfaction response modes such as contentment, pleasure, and delight

KEY FEATURES

- Focuses on the inter-relationship between packaging and the product experience, specifically in the context of the food and beverage sector
- Presents the expectancy disconfirmation model of satisfaction, which is well developed within the social sciences, to the food and beverage sector
- Contains case studies demonstrating how these practices can be used in industry to better enhance customer's responses to products
- Includes an extensive overview of an adapted satisfaction scale that has been tailored for the food and beverage sector and which identifies varying satisfaction response modes such as contentment, pleasure, and delight with a product

DESCRIPTION

Integrating the Packaging and Product Experience in Food and Beverages: A Road-Map to Consumer Satisfaction focuses on the interrelationship between packaging and the product experience. In both industry and academia there has been a growing interest in investigating approaches that capture consumer responses to products that go beyond traditional sensory and liking measures. These approaches include assessing consumers' emotional responses, obtaining temporal measures of liking, as well as numerous published articles considering the effect of situation and context in the evaluation of food and beverage products.

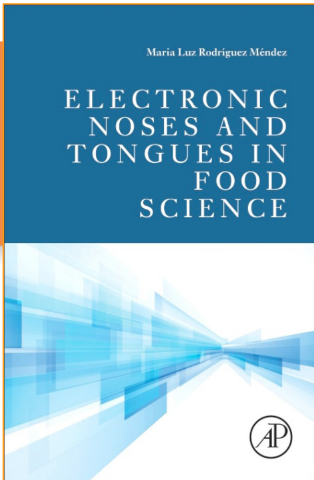
For fast-moving consumer goods (FMCG) products in particular, packaging can be considered as a contributor to consumer satisfaction. Recent cross-modal research illustrated consumers' dissatisfaction or delight with a product can be evoked when there is dissonance between the packaging and the product experience.

The book includes an extensive overview of an adapted satisfaction scale that has been tailored for the food and beverage sector and which identifies varying satisfaction response modes such as contentment, pleasure, and delight with a product. This is an important development as it provides insights about products that can be used to market specific categories and brands of foods and beverages.

The book demonstrates the value of this approach by bringing together case studies that consider the interrelationships between packaging design, shape, on-pack sensory messages, expectations, and consumer satisfaction with the product.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Electronic Noses and Tongues in Food Science

Edited by: ***Maria Luz Rodriguez Mendez*** Professor and Chair of Inorganic Chemistry at the University of Valladolid, Spain
Victor R. Preedy Department of Dietetics, King's College London, UK

ISBN: 978-0-12-800243-8
PUB DATE: February 2016
FORMAT: Hardback
PAGES: c. 316
TRIM: 8.5w x 10.875h

AUDIENCE
Food scientists, technologists, food industry workers, as well as research scientists.

A thorough examination into the use of electronic noses and tongues - key tools used to gauge sensory properties, food quality and safety in a wide range of products

KEY FEATURES

- Presents latest developments in the application of electronic nose and tongue technologies to a variety of food-specific needs
- Includes both electronic nose, electronic tongue and combined technology insights
- Each chapter has sections on: The physical and chemical platforms; Analysis of specific foods; Applications to other foods and areas of food science

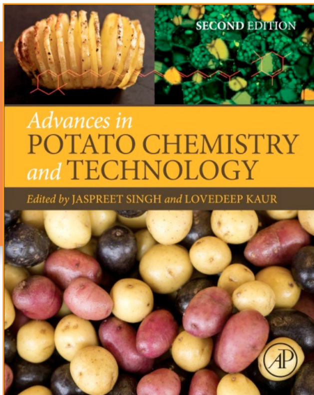
DESCRIPTION

Electronic Nose and Tongue in Food Science describes the electronic products of advanced chemical and physical sciences combined with intuitive integration of microprocessors, advanced bioinformatics and statistics. These include, for example, voltammetric, bio-electronic, piezoelectric platforms made from a variety of components including, nanoparticles, enzyme biosensors, heavy metals, graphite-epoxy composites, metal oxide semiconductors, microelectrodes, microfluidic channels, pre-manufactured gas sensors, redox enzymes and others and is an ideal resource for understanding and utilizing their power in Food Science settings.

Devices used to analyse one particular food item can theoretically be adapted for other food items or components. This does not just mean the re-deploying the physical platforms but also the mode of bioinformatic and statistical analysis. This includes artificial neural networks (ANN), linear discriminant analysis (LDA), partial least squares (PLS), principal component analysis (PCA) etc. In other words, there is cross transference of chemistry, physics, concepts, techniques, findings and approaches from one food to another. Electronic noses and tongues are two of these devices but are advancing in application and importance.

This book provides examples of the use of electronic noses and tongues to characterise components that contribute to sensory or compositional profiles, from ripening to harvesting and from storage of raw materials to packaging and consumption. These devises are suitable for high-throughput analysis, quality control or to determine the nature and extent of spoilage and adulteration, and have also been used to ascertain the geographical origins of food and mixtures.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Advances in Potato Chemistry and Technology, 2e

Edited by: ***Jaspreet Singh*** Riddet Institute, Massey University, New Zealand
Lovedeep Kaur Riddet Institute, Massey University, New Zealand

Shape future research with updated, new knowledge on the chemistry, nutrition, and technology of potatoes that includes discussions on the identification, analysis, and use of chemical components of potatoes, carbohydrate and non-carbohydrate composition, cell wall chemistry, and an analysis of glycoalkaloids, phenolics and anthocyanins, amongst others

ISBN: 978-0-12-800002-1

PREVIOUS EDITION ISBN: 9780123743497

PUB DATE: February 2016

FORMAT: Hardback

PAGES: c. 738

TRIM: 7.5w x 9.25h

AUDIENCE

Food scientists, food chemists, nutritionists, upper-level undergraduate and graduate students and food-industry professionals working with potatoes

KEY FEATURES

- Includes both the emerging non-food uses of potato and potato-by-products as well as the expanding knowledge on the food-focused use of potatoes
- Presents case studies on the problems, factors, proposed solutions, and pros and cons of each, allowing readers facing similar concerns and issues to effectively and efficiently identify an appropriate solution
- Written by a global collection of experts in both food and non-food potato science

DESCRIPTION

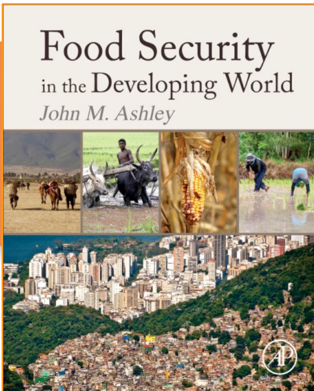
Advances in Potato Chemistry and Technology, Second Edition, presents the latest knowledge on potato chemistry, including the identification, analysis, and uses of chemical components in potatoes. Beginning with a brief description of potato components, the book then delves into their role during processing, then presenting information on strategies for quality optimization that provides students, researchers, and technologists working in the area of food science with recent information and updates on state-of-the-art technologies.

The updated edition includes the latest information related to the identification, analysis, and use of chemical components of potatoes, carbohydrate and non-carbohydrate composition, cell wall chemistry, an analysis of glycoalkaloids, phenolics and anthocyanins, thermal processing, and quality optimization.

In addition, new and sophisticated methods of quality determination of potatoes and their products, innovative and healthy potato-based foods, the future of genetically modified potatoes, and the non-food use of potatoes and their products is discussed.

FOOD SCIENCE, TECHNOLOGY & NUTRITION

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Food Security in the Developing World

John Michael Ashley Senior International Consultant, Geopolicity Inc., Dubai, U.A.E

ISBN: 978-0-12-801594-0
PUB DATE: January 2016
FORMAT: Paperback
PAGES: c. 210
TRIM: 6w x 9h

AUDIENCE

For University undergraduate/ diploma/ vocational/ adult education students and teachers; developing country government agricultural/ rural development/ planning ministries and departments; extension workers and NGOs; UN and other international organisations; bilateral and multilateral donor partners and development banks

Build successful plans to ensure food security by understanding the underlying concerns and causes

"In preparing for a mission to Somalia I was delighted to discover just the text that I needed on the concept and practice of food security. There seems to be nothing else readily available on the market, in spite of the fact that the term "food security" is used so widely in the international aid and development business. I found Dr. Ashley's comprehensive and detailed approach really helpful." – Dr. Alan J. Taylor, Director and Senior Consultant, Designers for Development Ltd., United Kingdom

"It is a very meticulous book . . . particularly . . . the emphasis on land tenure as a cause of food security. Very few books give it the importance it deserves as a basis of wealth creation." – James Breen, Agronomist and Consultant to FAO (1975-2015)

"Excellent, highly readable book and companion website, bringing alive a subject which could be boring if not written well. A great deal of information has been presented, much from the author's own experience in the field, which he has collated and presented in a style which holds reader interest." - Dr Perry Bosshart, Crop Production, Management and Research Consultant, California, USA

KEY FEATURES

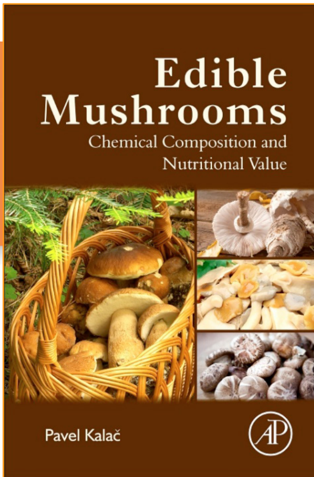
- Presents all aspects of food security in a logical sequence
- Covers the manifestation and measurement of food insecurity
- Includes case studies and cross-cutting multidisciplinary issues

DESCRIPTION

Food Security in the Developing World provides an entry point into the complex and challenging subject of providing access to nutritious and safe food in a readable format, capturing the essence of the subject in an effective and impactful manner. Organized into nine chapters the book covers the manifestation and measurement of food insecurity; means whereby households endeavour to be food-secure; causes of food insecurity; mitigation of current food insecurity and prevention of future food insecurity. There will then follow a chapter with case studies, a chapter on cross-cutting issues and the final chapter drawing conclusions and recommendations on the way forward to increase the prevalence of food security in developing countries. A glossary and Bibliography will round off the book.

Dr. Ashley's real-world experience makes the book accessible while providing valuable insights into the broad range of factors that contribute to food insecurity in this large at-risk population, and practical means of addressing them.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Edible Mushrooms

Chemical Composition and Nutritional Value

Pavel Kalac Professor of Agricultural Chemistry, Department of Applied Chemistry, University of South Bohemia, Czech Republic

ISBN: 978-0-12-804455-1

PUB DATE: January 2016

FORMAT: Paperback

PAGES: c. 216

TRIM: 6w x 9h

AUDIENCE

Food producers, processors and merchants of cultivated mushrooms; food chemists; nutritionists; mycologists.

The ultimate book compendium gathering all the information related to edible mushrooms: bioactive compounds, chemical composition and nutritional aspects

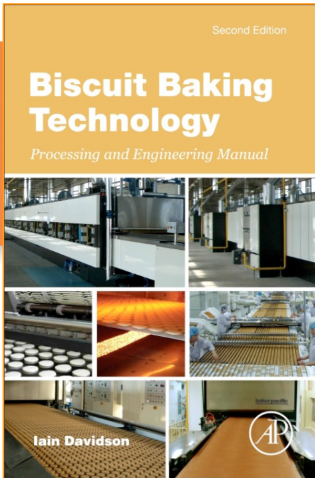
KEY FEATURES

- Thoroughly explores the chemical composition and nutritional value of both cultivated and wild growing mushroom species.
- Gathers all the information available on mushroom compounds in order providing an easy comparison of nutritional properties and bioactive compounds.
- Includes hundreds of current references allowing you to further your exploration of the topic by reviewing the detailed data in the primary literature.

DESCRIPTION

Edible Mushrooms provides an advanced overview of the chemical composition and nutritional properties of nearly all species of culinary mushrooms. This unique compendium gathers all current literature, which has beendispersed as fragmentary information until now.

The book is broken into five parts covering chemical and nutrient composition, taste and flavor components as well as health stimulating and potentially detrimental effects. Appendices provide helpful quick references on abbreviations, common names of mushrooms, fatty acid profiles, and an index of mushroom species. Mycologists, nutrition researchers, mushroom cultivators and distributors, and food and neutraceutical processors will benefit from this sweeping overview of edible mushrooms.



Biscuit Baking Technology, 2e

Processing and Engineering Manual

Iain Davidson Director, Baker Pacific Ltd.

ISBN: 978-0-12-804211-3

PUB DATE: January 2016

FORMAT: Paperback

PAGES: c. 334

TRIM: 6w x 9h

AUDIENCE

Senior managers and staff in industrial biscuit manufacturers (production, engineering and purchasing departments). Baking industry and institutions in general.

A manual for designers and operators on the biscuit oven-baking technology

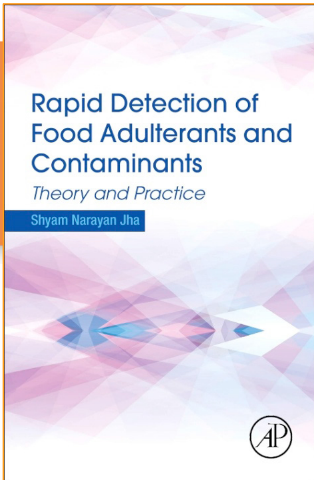
KEY FEATURES

- Thoroughly explores the engineering of baking, details biscuit baking equipments, oven specifications, installation, operation and maintenance;
- The second edition expands chapters 1 to 3, detailing basic biscuit process, product range, ingredients and process changes during baking. All the chapters have been reorganized and updated;
- Provides details of best industry practice for safety, hygiene and maintenance of ovens;
- Contains explanations of heat transfer and all the types of biscuit oven design with clear pictures and drawings;
- Gathers all the information on how to select and specify an oven to be purchased for a particular range of biscuits.

DESCRIPTION

Biscuit Baking Technology, Second Edition, is a reference book for senior managers and staff involved in industrial scale biscuit baking. It covers the biscuit industry process, ingredients, formulations, besides design, manufacture, installation, operation and maintenance of the baking ovens.

Written by an expert on the biscuit baking industry, the book is a complete manual guide that will help engineering, production and purchasing managers and staff in the biscuit industry to make the best decisions on oven efficiency purchasing.



Rapid Detection of Food Adulterants and Contaminants

Theory and Practice

Shyam Narayan Jha Project Coordinator, Central Institute of Post-Harvest Engineering & Technology, Ludhiana, India

ISBN: 978-0-12-420084-5

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 266

TRIM: 7.5w x 9.25h

AUDIENCE

Researchers and students in food science & technology, food engineering, and food microbiology

As a quick reference for the basic understanding of government standards and practices regarding the detection of food adulterants and contaminants, this comprehensive book provides an overview of the latest detection methods, helping users gain an understanding of how these methods aid in ensuring food quality and safety

KEY FEATURES

- Reviews the most common detection methods of food adulterants and contaminants
- Includes supporting theory behind the latest techniques
- Presents case studies to better understand practical applications and resources for further research
- Addresses the safety standards of a variety of governments and serves as a reference for why government procedures are put in place

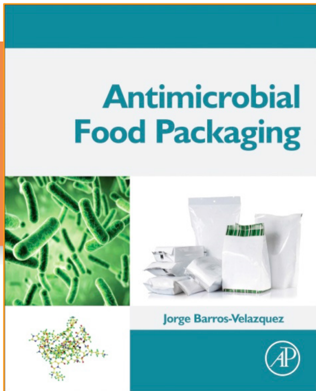
DESCRIPTION

Rapid Detection of Food Adulterants and Contaminants: Theory and Practice contains solid information on common adulterants and contaminants in various foods, guidelines for different standards, permissible limits prescribed by food regulatory authorities, and related detection techniques. This is an essential reference for anyone interested in progressive research on detection methods for food safety, especially researchers engaged in developing fast, reliable, and often nondestructive methods for the evaluation of food safety.

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Antimicrobial Food Packaging

Edited by: ***Jorge Barros-Velazquez*** College of Pharmacy/School of Veterinary Sciences, University of Santiago de Compostela, Spain

This practical reference provides basic information and practical applications for the potential uses of various films in food packaging, and also describes the different types of microbial targets (fungal, bacteria, etc.) and the applicability of techniques to industry

ISBN: 978-0-12-800723-5

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 654

TRIM: 8.5w x 10.875h

AUDIENCE

Professionals in food packaging, food technology, food safety, food scientists and technologists; microbiologists; chemists

KEY FEATURES

- Presents the science behind anti-microbial packaging and films reflecting advancements in chemistry, microbiology, and food science
- Includes the most up-to-date information on regulatory aspects, consumer acceptance, research trends, cost analysis, risk analysis and quality control
- Discusses the uses of natural and unnatural compounds for food safety and defense

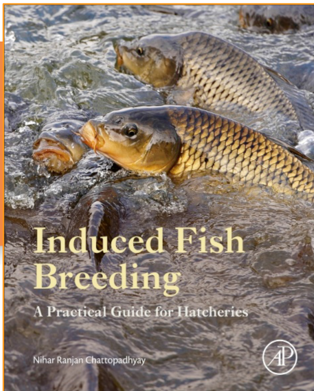
DESCRIPTION

Antimicrobial Food Packaging takes an interdisciplinary approach to provide a complete and robust understanding of packaging from some of the most well-known international experts. This practical reference provides basic information and practical applications for the potential uses of various films in food packaging, describes the different types of microbial targets (fungal, bacteria, etc.), and focuses on the applicability of techniques to industry.

Tactics on the monitoring of microbial activity that use antimicrobial packaging detection of food borne pathogens, the use of biosensors, and testing antimicrobial susceptibility are also included, along with food safety and good manufacturing practices. The book aims to curtail the development of microbiological contamination of food through anti-microbial packaging to improve the safety in the food supply chain.

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Induced Fish Breeding

A Practical Guide for Hatcheries

Nihar Ranjan Chattopadhyay Faculty of Fishery Sciences, West Bengal University of Animal & Fishery Sciences, India

This helpful resource provides real-life examples that highlight tactics for maximizing fish and seed production to support overall sustainability in aquaculture, featuring valuable case studies from India where induced fish breeding has made great strides

ISBN: 978-0-12-801774-6

PUB DATE: October 2016

FORMAT: Paperback

PAGES: c. 328

TRIM: 7.5w x 9.25h

AUDIENCE

Fishery researchers, Fish seed producers, Policy makers; Fish Hatchery Managers, Aquaculturists; Students

KEY FEATURES

- Provides detailed information about empirical breeding practices like mixed spawning and indiscriminate hybridization
- Presents the environmental and hormonal influence on maturation and spawning of fish with real-life fish breeding examples from around the world
- Includes step-by-step scientific measures to help solve problems arising from common fish-farming mistakes
- Provides real-life examples for the purpose of maximizing fish and seed production to support overall sustainability in aquaculture

DESCRIPTION

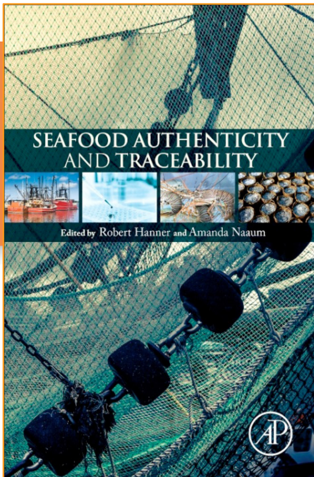
Induced Fish Breeding: A Practical Guide for Hatcheries takes a successive approach to explaining the use of breeding technology with proven scientific methods. It provides real-life examples for the purpose of maximizing fish and seed production to support overall sustainability in aquaculture. It is a concise reference to understanding the latest developments in the field, useful for anyone who is involved in fisheries or hatchery management as well as researchers and students who need to understand the technology.

A practice originally developed to produce quality seed in captivity, induced breeding has made great strides in fish populations for India. The book offers a practical and succinct overview—from existing methods and operations to recent trends and their impacts on aquaculture for the future.

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Seafood Authenticity and Traceability

A DNA-based Pespective

Edited by: ***Amanda Naaum*** Teaching Assistant, University of Guelph, Canada
Robert Hanner Head, Biodiversity Institute of Ontario, University of Guelph, Canada

This concise reference guide provides a thorough examination of the latest molecular tools, methods, and technology used to improve seafood safety and quality, covering accurate species identification, supply chain traceability, industrial food safety, seafood safety and quality, aquaculture, and molecular ecology

ISBN: 978-0-12-801592-6
PUB DATE: August 2016
FORMAT: Paperback
PAGES: c. 186
TRIM: 6w x 9h

AUDIENCE

Seafood safety professionals, researchers, international food safety officers, industrial food safety managers, lab technicians and graduate students in molecular ecology and biology, aquaculture

KEY FEATURES

- Presents current and future perspectives in the emerging field of traceability, including solid coverage of DNA analysis for origin detection
- Includes molecular authentication tools to improve species identification throughout the seafood industry
- Provides reviews of the technology and processes for each DNA analysis method
- Offers a comprehensive overview for those in food authenticity who may not have an in-depth molecular biology background

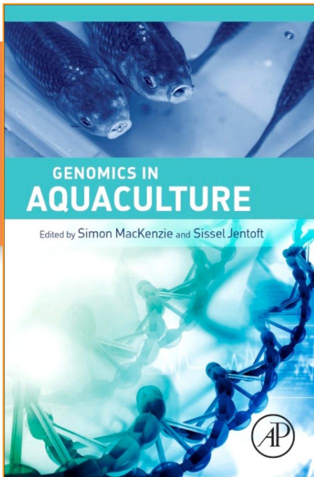
DESCRIPTION

Seafood Authenticity and Traceability: a DNA-based Pespective is a concise reference showcasing the latest developments in the field. Written for those in food authenticity who may not have a technical molecular biology background, the book covers methods used for DNA analysis and an overview of their applications in fish and seafood, also providing reviews of the technology and processes for each method. It offers a practical and succinct overview of the relationship between accurate identification, traceability, sustainability, and safety of seafood, including an overview of the supply chain and the industry's need for improved traceability.

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Genomics in Aquaculture

Edited by: ***Simon A MacKenzie*** Senior Lecturer, Marine Biotechnology, Institute of Aquaculture, University of Stirling, UK
Sissel Jentoft University of Oslo, Norway

ISBN: 978-0-12-801418-9

PUB DATE: July 2016

FORMAT: Paperback

PAGES: c. 290

TRIM: 6w x 9h

AUDIENCE

Aquaculture industry researchers and scientists and associated industries (pharma, health/nutrition etc.), Students across disciplines of biology, veterinary sciences, biotechnology, animal science & marine biology

This robust yet concise reference offers practical guidance on the latest advances in the rapidly growing field of aquaculture genomics, providing the latest scientific methods and technologies used to maximize efficient production of healthy fish, such as genome sequencing, transcriptomics, and proteomics

KEY FEATURES

- Provides the latest scientific methods and technologies to maximize efficiencies for healthy fish production, with summary tables for quick reference
- Offers an extended glossary of technical and methodological terms to help readers better understand key biological concepts
- Describes state-of-the-art technologies, such as transcriptomics and epigenomics, currently under development for future perspective of the field
- Covers minority species that have a specific biological interest (e.g., Pleuronectiformes), making the book useful to countries developing such species

DESCRIPTION

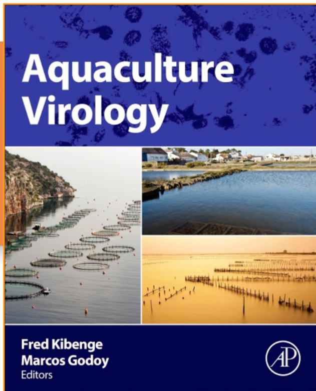
Genomics in Aquaculture is a concise, must-have reference that describes current advances within the field of genomics and their applications to aquaculture. Written in an accessible manner for anyone—non-specialists to experts alike—this book provides in-depth coverage of genomics spanning from genome sequencing, to transcriptomics and proteomics. It provides, for ease of learning, examples from key species most relevant to current intensive aquaculture practice.

Its coverage of minority species that have a specific biological interest (e.g., Pleuronectiformes) makes this book useful for countries that are developing such species. It is a robust, practical resource that covers foundational, functional, and applied aspects of genomics in aquaculture, presenting the most current information in a field of research that is rapidly growing.

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Aquaculture Virology

Edited by: ***Frederick S. B. Kibenge*** BVM, PhD, Department of Pathology and Microbiology, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, PEI, Canada
Marcos Godoy Dr. Veterinarian, Marine Biologist, Universidad San Sebastian, Medicina Veterinaria, Puerto Montt, Chile; Centro de Investigaciones Biológicas Aplicadas (CIBA), Puerto Montt, Chile.

ISBN: 978-0-12-801573-5

PUB DATE: July 2016

FORMAT: Paperback

PAGES: c. 550

TRIM: 7.5w x 9.25h

AUDIENCE

Aquaculture Practitioners in the prevention and control of viral aquaculture diseases. Aquaculture industry researchers and scientists and associated industries (pharma, health/nutrition etc), Students across disciplines in aquaculture, comparative virology, biology, veterinary sciences, biotechnology, animal science & marine biology

This comprehensive book examines the main virus families and diseases relevant to aquaculture—including detailed discussions of specific diseases—in a systematic and succinct format

KEY FEATURES

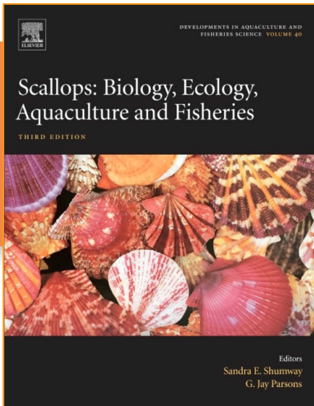
- Provides unique comprehensive information on animal viruses for aquaculture and fisheries
- Presents high quality illustrations of viral structure, diagrams of viral disease processes, gross pathology and histopathology lesions, and summary tables to aid in understanding
- Describes aquatic animal viruses of the three major aquatic animals, fish, crustaceans, and molluscs, within the current virus classification and taxonomic context thereby allowing the reader to draw on the principles of general virology

DESCRIPTION

To date textbooks on viruses infecting fish, crustaceans and molluscs, the three main aquatic animal farmed groups, have been on the whole "diseases-centric" and individual viral diseases selected based on "epizoo-centric" approaches with little to no coverage of the basic biology of the viruses, in contrast to textbooks on viruses infecting terrestrial – farmed, pet, and free-range (wild) – animals and humans. Despite considerable advances in animal virology in recent years coupled with an economically important global aquaculture industry, knowledge of viruses of animal aquaculture is still sparse and in some cases outdated although these viruses are closely related to well-known virus families. The last book in fish virology (Fish viruses and fish viral diseases 1988, Wolf, K.) was published in the 1980s. A lot of work has been done on fish viruses and many new aquatic animal viruses continue to be discovered. ***Aquaculture Virology*** provides the current state of knowledge of aquatic animal viruses within the current virus classification and taxonomic context thereby allowing the reader to draw on the principles of general virology. This book is a systematic and concise resource useful to anyone involved with or looking to move into aquaculture and fisheries. Clinical veterinarians, aquaculture disease practitioners, biologists, farmers, and all those in industry, government or academia who are interested in aquatic animal virology will find this book extremely useful.

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Scallops, Vol 40, 3e

Biology, Ecology, Aquaculture, and Fisheries

Edited by: ***Sandra E. Shumway*** Department of Marine Sciences, University of Connecticut, Groton, CT, USA
G. Jay Parsons Aquaculture Science Branch, Fisheries and Oceans Canada, Ottawa, ON, Canada

This third edition of this well-respected book on scallops discusses all facets of scallop biology, including anatomy, taxonomy, physiology, ecology, larval biology, and neurobiology, giving users an update on the most recent advancements on one of the fastest growing animal food producing sectors in the world

ISBN: 978-0-444-62710-0

PREVIOUS EDITION ISBN: 978-0-444-50482-1

PUB DATE: July 2016

FORMAT: Hardback

PAGES: c. 1188

TRIM: 8.5w x 10.875h

AUDIENCE

Fisheries, marine biologists, and researchers studying shellfish and the ocean environment

A Volume in the Developments in Aquaculture and Fisheries Science Series.

KEY FEATURES

- Offers 30 detailed chapters on the development and ecology of scallops
- Provides chapters on various cultures of scallops in China, Japan, Scandinavia, Europe, Eastern North America, and Western North America
- Includes details of scallop reproduction, nervous system, and behavior, genetics, diseases, parasites, and much more
- Completely updated edition with valuable information on one of the most widely distributed shellfish in the world

DESCRIPTION

Scallops: Biology, Ecology, Aquaculture and Fisheries, Third Edition, continues its history as the definitive resource on scallops, covering all facets of scallop biology, including anatomy, taxonomy, physiology, ecology, larval biology, and neurobiology.

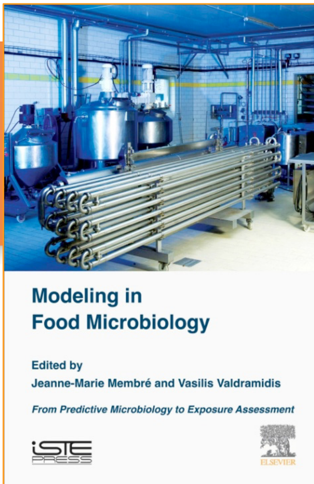
More than thirty extensive chapters explore both fisheries and aquaculture for all species of scallops in all countries where they are fished or cultured.

This treatise has been updated to include the most recent advances in research and the newest developments within the industry. As aquaculture remains one of the fastest-growing animal food-producing sectors, this reference becomes even more vital. It has all the available information on scallops needed to equip researchers to deal with the unique global issues in the field.

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Modeling in Food Microbiology

From Predictive Microbiology to Exposure Assessment

Jeanne-Marie Membré The French National Institute for Agricultural Research, Nantes, France
Vasilis Valdramidis University of Leuven, Leuven, Belgium

ELSEVIER

ISBN: 978-1-78548-155-0
PUB DATE: January 2016
FORMAT: Hardback
PAGES: c. 88
TRIM: 6w x 9h

AUDIENCE

Stakeholders, industry professionals, researchers and academics in the field of food technology, food science and food microbiology, biosystems engineering and chemical engineering

A review of existing terminology of Predictive Microbiology and exposure assessment, with featured examples of applying these tools along the food chain

KEY FEATURES

- Features an extensive review of modelling terminology
- Presents examples of all available microbial models (i.e., growth, inactivation, growth/no growth) and applicable software
- Revisits all statistical aspects related to exposure assessment
- Describes realistic examples of implementing microbial spoilage and safety modeling approaches

DESCRIPTION

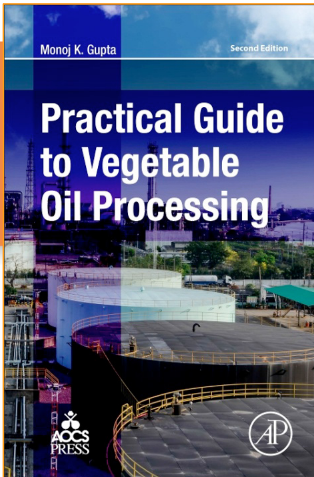
Predictive microbiology primarily deals with the quantitative assessment of microbial responses at a macroscopic or microscopic level, but also involves the estimation of how likely an individual or population is to be exposed to a microbial hazard.

This book provides an overview of the major literature in the area of predictive microbiology, with a special focus on food. The authors tackle issues related to modeling approaches and their applications in both microbial spoilage and safety.

Food spoilage is presented through applications of best-before-date determination and commercial sterility. Food safety is presented through applications of risk-based safety management. The different modeling aspects are introduced through probabilistic and stochastic approaches, including model and data uncertainty, but also biological variability.

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Practical Guide to Vegetable Oil Processing, 2e

Monoj Gupta MG Edible Oil Consulting International, Inc., Lynwood, WA, USA

ISBN: 978-1-63067-050-4

PREVIOUS EDITION ISBN: 9781893997905

PUB DATE: February 2017

FORMAT: Paperback

PAGES: c. 480

TRIM: 6w x 9h

AUDIENCE

Edible oil processing managers and supervisors, Chemical engineers, QA/QC technicians, Lab technicians, Vegetable oil processing and maintenance personnel, as well as equipment manufacturers

An up-to-date training manual for everything related to vegetable oil processing, refining, and deodorizing for chemists, engineers, and managers

KEY FEATURES

- Provides insights to the challenges of bleaching very green oils
- Includes new deodorizer designs and performance measures
- Offers insights on frying oil quality management
- Simple and easy-to-read language

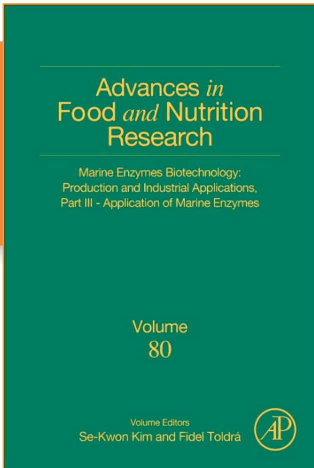
DESCRIPTION

Practical Guide to Vegetable Oil Processing, Second Edition, includes an up-to-date summary of the basic principles of edible oil refining, processing, and deodorizing, serving as a hands-on training manual for chemists, engineers, and managers new to the industry.

The 15-chapter book includes current information on the bleaching of green oils and coconut oil, quality requirements for frying oil applications, and more. Written for the non-chemist new to the industry, the book makes it simple to apply these important concepts for the edible oil industry.

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Advances in Food and Nutrition Research, Vol 80

Marine Enzymes Biotechnology: Production and Industrial Applications, Part III - Application of Marine Enzymes

Edited by: ***Fidel Toldrá*** Department of Food Science, Institute of Agrochemistry and Food Technology, Valencia, Spain
Se-Kwon Kim Department of Chemistry and Marine Bioprocess Research Center, Pukyong National University, Busan, South Korea

This comprehensive book on marine enzymes biotechnology brings together the diverse range of research important to both biomedical and industrial applications

ISBN: 978-0-12-809587-4
PUB DATE: March 2017
FORMAT: Hardback
PAGES: c. 222
TRIM: 6w x 9h

AUDIENCE

This book will provide excellent information of marine enzyme biotechnology which will be essential reading for the novice and expert in the field of marine biotechnology, microbiology, marine biology and biochemistry and also this book would be comprehensive material for students, scholars, scientists and industrialists in the field in marine microbial biotechnology

KEY FEATURES

- Focuses on the isolation, characterization, and industrial application of marine enzymes
- Provides current trends in industrial important marine enzymes, including amylases, carboxymethylcellulases, proteases, chitinases, keratinases, xylanases, agarases, lipases, peroxidase, and tyrosinases
- Presents insights into current trends and approaches for marine enzymes

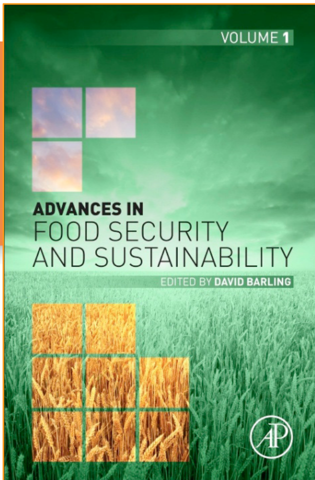
DESCRIPTION

Marine Enzymes Biotechnology: Production and Industrial Applications, Part III, Application of Marine Enzymes provides a huge treasure trove of information on marine organisms and how they are not only good candidates for enzyme production, but also a rich source of biological molecules that are of potential interest to various industries.

Marine enzymes such as amylases, carboxymethylcellulases, proteases, chitinases, keratinases, xylanases, agarases, lipases, peroxidase, and tyrosinases are widely used in the industry for the manufacture of pharmaceuticals, foods, beverages, and confectioneries, as well as in textile and leather processing and waste water treatment.

The majority of the enzymes used in the industry are of microbial origin because microbial enzymes are relatively more stable than the corresponding enzymes derived from plants and animals.

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Advances in Food Security and Sustainability, Vol 1

Advances in Food Security and Sustainability

Edited by: ***David Barling*** Department of Biological and Environmental Sciences, University of Hertfordshire, Hatfield, UK

ISBN: 978-0-12-809863-9

PUB DATE: October 2016

FORMAT: Paperback

PAGES: c. 168

TRIM: 6w x 9h

AUDIENCE

Researchers in life sciences and social sciences as well as policymakers, food industry professionals, advisers, and more

Takes a scientific look at the challenges, constraints, and solutions necessary for a healthy and accessible food supply in communities around the world

KEY FEATURES

- Contains expertise from leading contributions on the topics discussed
- Covers a vast array of subjects relating to food security and sustainability

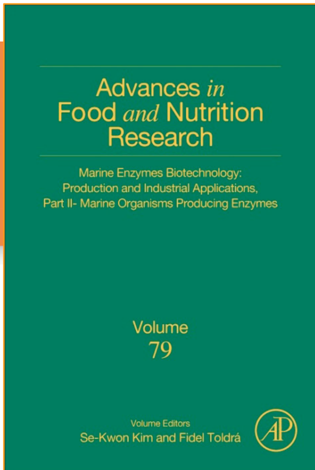
DESCRIPTION

Advances in Food Security and Sustainability takes a scientific look at the challenges, constraints, and solutions necessary to maintain a healthy and accessible food supply in different communities around the world. The series addresses a wide range of issues related to the principles and practices of food sustainability and security, exploring challenges related to protecting environmental resources while meeting human nutritional requirements.

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Advances in Food and Nutrition Research, Vol 79

Marine Enzymes Biotechnology: Production and Industrial Applications, Part II - Marine Organisms Producing Enzymes

Edited by: ***Fidel Toldrá*** Department of Food Science, Institute of Agrochemistry and Food Technology, Valencia, Spain
Se-Kwon Kim Pukyong National University, Busan, South Korea

ISBN: 978-0-12-804714-9
PUB DATE: October 2016
FORMAT: Hardback
PAGES: c. 218
TRIM: 6w x 9h

AUDIENCE

Novice and experts in the field of marine biotechnology, microbiology, marine biology and biochemistry and comprehensive material for students, scholars, scientists and industrialists in the field in marine microbial biotechnology

This comprehensive book on marine enzymes biotechnology brings together a diverse range of research important to biomedical and industrial applications

KEY FEATURES

- Focuses on the isolation, characterization, and industrial application of marine enzymes
- Provides current trends and development of industrial important marine enzymes, including amylases, carboxymethylcellulases, proteases, chitinases, keratinases, xylanases, agarases, lipases, peroxidase, and tyrosinases
- Presents insights into current trends and approaches for marine enzymes

DESCRIPTION

Marine Enzymes Biotechnology: Production and Industrial Applications, Part II - Marine Organisms Producing Enzymes provides a huge treasure trove of information on marine organisms. Nowadays, marine organisms are good candidates for enzymes production and have been recognized as a rich source of biological molecules that are of potential interest to various industries.

Marine enzymes such as amylases, carboxymethylcellulases, proteases, chitinases, keratinases, xylanases, agarases, lipases, peroxidase and tyrosinases are widely used in the industry for the manufacture of pharmaceuticals, foods, beverages, and confectioneries, as well as in textile and leather processing, and in waste water treatment.

The majority of the enzymes used in the industry are of microbial origin because microbial enzymes are relatively more stable than the corresponding enzymes derived from plants and animals.

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Advances in Agronomy, Vol 140

Advances in Agronomy

Edited by: ***Donald L Sparks*** S. Hallock du Pont Chair in Soil and Environmental Chemistry and Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA

A highly cited and well established book series on agronomy that includes cutting-edge, timely topics relating to the crop and soil sciences.

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews in the field of agronomy
- Features distinguished, well recognized authors from around the world
- Covers the extensive variety and breadth of subject matter in the crop and soil sciences

ISBN: 978-0-12-804691-3

PUB DATE: October 2016

FORMAT: Hardback

PAGES: c. 220

TRIM: 6w x 9h

AUDIENCE

Scientists and practitioners in academia, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences. The readership spans the globe

DESCRIPTION

Advances in Agronomy continues to be recognized as a leading reference and first-rate source for the latest research in agronomy. Each volume contains an eclectic group of reviews by leading scientists throughout the world. Six volumes are published yearly, ensuring that the esteemed work of its contributors is disseminated in a timely manner. As always, the subjects covered are varied and exemplary of the myriad of subject matter dealt with by this long-running serial.

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Advances in Agronomy, Vol 139

Advances in Agronomy

Edited by: ***Donald L Sparks*** S. Hallock du Pont Chair in Soil and Environmental Chemistry and Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA

This highly cited and well established serial review -- including cutting-edge information on topics in the crop and soil sciences -- contains the latest research in the field of agronomy as disseminated by leading scientists

ISBN: 978-0-12-804773-6

PUB DATE: August 2016

FORMAT: Hardback

PAGES: c. 284

TRIM: 6w x 9h

AUDIENCE

Scientists and practitioners in academe, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences. The readership spans the globe.

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews on the latest advancements in agronomy
- Features distinguished, well recognized authors from around the world
- Builds upon this venerable and iconic review series
- Covers the extensive variety and breadth of subject matter in the crop and soil sciences

DESCRIPTION

Advances in Agronomy continues its reputation as a leading reference and first-rate source for the latest research in agronomy. Each volume contains an eclectic group of reviews by leading scientists throughout the world.

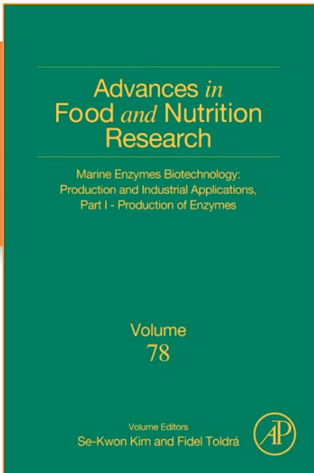
Five volumes are published yearly, ensuring that the authors' contributions are disseminated to the readership in a timely manner.

As always, the subjects covered are varied and exemplary of the myriad of subject matter dealt with by this long-running serial.

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Advances in Food and Nutrition Research, Vol 78

Marine Enzymes Biotechnology: Production and Industrial Applications, Part I - Production of Enzymes

Edited by: ***Fidel Toldrá*** Department of Food Science, Institute of Agrochemistry and Food Technology, Valencia, Spain
Se-Kwon Kim Pukyong National University, Busan, South Korea

This comprehensive book on marine enzymes biotechnology brings together the diverse range of research important to both biomedical and industrial applications

ISBN: 978-0-12-803847-5
PUB DATE: July 2016
FORMAT: Hardback
PAGES: c. 198
TRIM: 6w x 9h

AUDIENCE

This book will provide excellent information on marine enzyme biotechnology and will be essential reading for the novice and expert in the field of marine biotechnology, microbiology, marine biology and biochemistry; also provides comprehensive material for students, scholars, scientists and industrialists in marine microbial biotechnology.

KEY FEATURES

- Focuses on the isolation, characterization, and industrial application of marine enzymes
- Provides current trends and development of industrial important marine enzymes, including amylases, carboxymethylcellulases, proteases, chitinases, keratinases, xylanases, agarases, lipases, peroxidase, and tyrosinases
- Presents insights into current trends and approaches for marine enzymes

DESCRIPTION

Marine Enzymes Biotechnology: Production and Industrial Applications, Part I, Production of Enzymes provides a huge treasure trove of information on marine organisms.

Nowadays, marine organisms are good candidates for enzymes production and have been recognized as a rich source of biological molecules that are of potential interest to various industries.
Marine enzymes such as amylases, carboxymethylcellulases, proteases, chitinases, keratinases, xylanases, agarases, lipases, peroxidase and tyrosinases are widely used in the industry for the manufacture of pharmaceuticals, foods, beverages, and confectioneries, as well as in textile and leather processing, and in waste water treatment.
The majority of the enzymes used in the industry are of microbial origin because microbial enzymes are relatively more stable than the corresponding enzymes derived from plants and animals.

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Advances in Agronomy, Vol 138

Advances in Agronomy

Edited by: ***Donald L Sparks*** S. Hallock du Pont Chair in Soil and Environmental Chemistry and Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA

ISBN: 978-0-12-804774-3

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 292

TRIM: 6w x 9h

AUDIENCE

scientists and practitioners in academe, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences. The readership spans the globe.

A highly cited and well established serial review that includes cutting-edge reviews on topics in the crop and soil sciences as compiled by an eclectic group of leading scientists from the world of agronomy

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews
- Features distinguished, well recognized authors from around the world
- Builds upon this venerable and iconic review series
- Covers the extensive variety and breadth of subject matter in crop and soil sciences

DESCRIPTION

Advances in Agronomy continues to be recognized as a leading reference and first-rate source for the latest research in agronomy. Each volume contains an eclectic group of reviews by leading scientists throughout the world. As always, the subjects covered are rich, varied, and exemplary of the abundant subject matter addressed by this long-running serial.

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Advances in Agronomy, Vol 137

Advances in Agronomy

Edited by: ***Donald L Sparks*** S. Hallock du Pont Chair in Soil and Environmental Chemistry and Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA



ISBN: 978-0-12-804692-0

PUB DATE: April 2016

FORMAT: Hardback

PAGES: c. 380

TRIM: 6w x 9h

AUDIENCE

scientists and practitioners in academe, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences. The readership spans the globe.

A highly cited and well established serial review that includes cutting-edge reviews on topics in the crop and soil sciences as compiled by an eclectic group of leading scientists from the world of agronomy

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews
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- Covers the extensive variety and breadth of subject matter in crop and soil sciences

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Advances in Food and Nutrition Research, Vol 77

Advances in Food and Nutrition Research

Edited by: ***Jeya Henry*** Singapore Institute for Clinical Sciences, Brenner Center for Molecular Medicine, Singapore

This book presents the latest in an ongoing series that continually publishes cutting-edge reviews in the areas of food science and nutrition, helping users recognize the integral relationship between the food and nutritional sciences, and bringing together outstanding and comprehensive reviews that highlight this relationship

ISBN: 978-0-12-804772-9

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 104

TRIM: 6w x 9h

AUDIENCE

Food scientists in academia and industry and professional nutritionists and dietitians.

KEY FEATURES

- Provides the latest, most important information for food scientists and nutritionists
- Contains peer-reviewed articles by a panel of respected scientists
- Recognized as the go-to series on the topic of advances in food and nutrition research since 1948

DESCRIPTION

Advances in Food and Nutrition Research recognizes the integral relationship between the food and nutritional sciences, bringing together outstanding and comprehensive reviews that highlight this relationship. The book contains contributions that detail scientific developments in the broad areas of food science and nutrition, providing those in academia and industry with the latest information on emerging research in these constantly evolving sciences.

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Advances in Agronomy, Vol 136

Advances in Agronomy

Edited by: ***Donald L Sparks*** S. Hallock du Pont Chair in Soil and Environmental Chemistry and Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA



ISBN: 978-0-12-804681-4

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 255

TRIM: 6w x 9h

AUDIENCE

scientists and practitioners in academe, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences. The readership spans the globe.

A highly cited and well established serial review that includes cutting edge reviews on topics in the crop and soil sciences

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews
- Features distinguished, well recognized authors from around the world
- Builds upon this venerable and iconic review series
- Covers the extensive variety and breadth of subject matter in crop and soil sciences

DESCRIPTION

Advances in Agronomy continues to be recognized as a leading reference and a first-rate source for the latest research in agronomy. Each volume contains an eclectic group of reviews by leading scientists throughout the world. As always, the subjects covered are rich and varied and exemplary of the abundant subject matter addressed by this long-running serial.



Advances in Agronomy, Vol 135

Advances in Agronomy

Edited by: ***Donald L Sparks*** S. Hallock du Pont Chair in Soil and Environmental Chemistry and Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA

ISBN: 978-0-12-804693-7

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 234

TRIM: 6w x 9h

AUDIENCE

scientists and practitioners in academe, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences. The readership spans the globe.

A highly cited and well established serial review that includes cutting edge reviews on topics in the crop and soil sciences

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews
- Features distinguished, well recognized authors from around the world
- Builds upon this venerable and iconic review series
- Covers the extensive variety and breadth of subject matter in crop and soil sciences

DESCRIPTION

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The European Research Management Handbook

Jan Andersen Senior Executive Advisor, Science Research and Innovation,University of Copenhagen, Frederiksberg, Denmark
Kristel Toom Vice Head and Researcher, Estonian Academy of Security Sciences, Tallinn, Estonia
Susi Poli Doctoral EdD Candidate at UCL Institute of Education, London, UK
Pamela F. Miller Director, Sponsored Projects Office, University of California at Berkeley, Berkeley, CA, U.S.A.

ISBN: 978-0-12-805059-0
PUB DATE: June 2017
FORMAT: Paperback
PAGES: c. 304
TRIM: 6w x 9h

AUDIENCE

Professional research administrators and support staff in universities and research institutions, Researchers and research groups, and university management as well as those interested in exploring a career in research management or research administration

Provides frameworks, insight, and guidance on research management and research administration

KEY FEATURES

- Offers a deeper understanding of the research management and administrative landscape through single and collective definitions and experiences
- Provides an overview of the research environment and explores the international research arena
- Discusses some of the most complex issues in research management and administration by covering topics such as ethics, innovation, research impact, organizational structures, and processes for the project life cycle

DESCRIPTION

The European Research Management Handbook addresses the myriad of responsibilities related to research management and administration. The book incorporates narratives from those working in the field to provide insight into the profession. The book also offers a unique perspective on the topic by incorporating global perspectives to address the growing interdisciplinary nature of research collaboration.

The European Research Management Handbook outlines practical advice for those in the research management and administration profession at all levels of experience. It is also a useful tool that research institutions and research groups can use to assist in planning and streamlining their research support.

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ReSearch

A Career Guide for Scientists

Teresa M. Evans PhD, Director, the Office of Career Development, Graduate School of Biomedical Sciences, University of Texas Health and Science Center at San Antonio, San Antonio, TX, USA
Natalie Lundsteen PhD, Director of Graduate Career Development, Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center, Dallas, TX, USA
Nathan L. Vanderford PhD, MBA, Assistant Professor, Department of Toxicology and Cancer Biology; Assistant Dean for Academic Development, College of Medicine; Assistant Director for Research, Markey Cancer Center, University of Kentucky, Lexington, KY, USA

ISBN: 978-0-12-804297-7
PUB DATE: June 2017
FORMAT: Paperback
PAGES: c. 288
TRIM: 6w x 9h

AUDIENCE
Graduate, medical, and postdoctoral students across the Sciences as well as faculty, advisors, industry professionals, societies, and other organizations who are involved in career counselling, science education programs, and/or mentorship programs. Graduates and professionals in other STEM areas

Inside knowledge on how to effectively leverage skill sets to take that next step in your career

KEY FEATURES

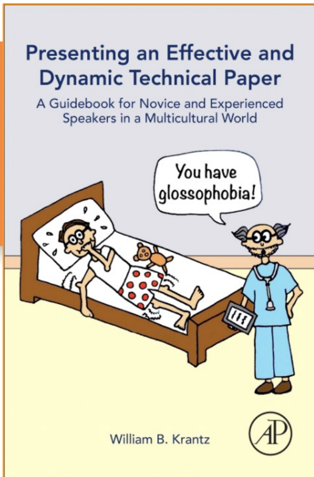
- Fills the knowledge gap in career planning practices for students and early career researchers in the STEM fields, particularly those in the sciences
- Provides global perspectives on seeking career opportunities outside of the United States
- Includes strategies for how to market your transferable skill sets, network, and maximize informational interviews

DESCRIPTION

ReSearch is a career planning guide and practical tool for graduate students and postdocs in the pursuit of any career. This book provides step-by-step processes for the assessment of career goals and the actions that can be taken in order to achieve them. *ReSearch* includes chapters on the basics of career planning, determining unique selling points, and navigating work-life concerns. This book also includes narratives from a number of perspectives to showcase the variety of career options available.

ReSearch is written by experts with inside knowledge of how to effectively leverage skills in order to take that next step in your career, whether you are a recent graduate or are interested in transitioning into something new. This book is also a valuable resource for advisors and careers counselors who mentor students and postdocs about their career plans.

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Presenting an Effective and Dynamic Technical Paper

A Guidebook for Novice and Experienced Speakers in a Multicultural World

William B. Krantz President's Teaching Scholar and Professor Emeritus, University of Colorado, Boulder, CO, USA; Rieveschl Ohio Eminent Scholar and Professor Emeritus, University of Cincinnati, Cincinnati,OH, USA

ISBN: 978-0-12-805418-5

PUB DATE: November 2016

FORMAT: Paperback

PAGES: c. 96

TRIM: 6w x 9h

AUDIENCE

Students and researchers across the sciences interested in improving their oral communication skills; in particular non-native English speakers

A practical, compact guidebook covering the 'nuts and bolts' of effective public speaking from a cross-cultural perspective

KEY FEATURES

- Discusses best practices in putting together an effective talk
- Focuses on leveraging the speaker's existing skillsets to develop the delivery style that works best for that individual
- Features one-page quick reference guides for giving both formal oral and informal poster presentations
- Addresses cross-cultural communication, as well as particular concerns for non-native English speakers
- Includes a companion site with tools and video examples of formal and informal presentations for further self-guidance

DESCRIPTION

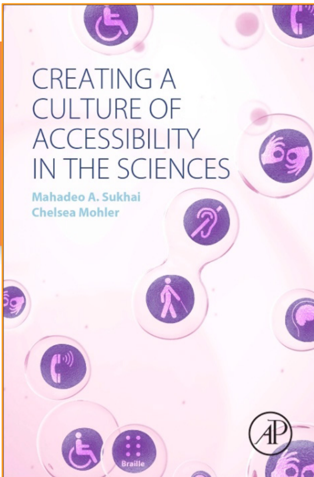
Presenting an Effective and Dynamic Technical Paper: A Guidebook for Novice and Experienced Speakers in a Multicultural World is intended for inexperienced speakers as well as those aspiring to improve their communication skills in making either formal or informal presentations on a technical subject.

The book focuses on how to make presentations to a cross-cultural audience, including such tactics as how to list the names of the co-authors on your presentation, how to handle eye contact and use humor, both of which can differ across the global spectrum of cultures. The cross-cultural focus of this book relates not only to the audience, but also to the speaker. This book also includes helpful tips for non-native English speakers.

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Creating a Culture of Accessibility in the Sciences

Mahadeo A. Sukhai Research Fellow and Team Leader, University Health Network, Princess Margaret Hospital, Ontario Cancer Institute, Toronto, ON, Canada
Chelsea E. Mohler Research Consultant, National Educational Association of Disabled Students, Ottawa, ON, Canada

As a comprehensive guide, this book provides insights and advice on integrating students with disabilities into the STEM fields, with each chapter featuring research and best practices that are interwoven with experiential narratives

ISBN: 978-0-12-804037-9

PUB DATE: December 2016

FORMAT: Paperback

PAGES: c. 316

TRIM: 6w x 9h

AUDIENCE

University faculty, academic administrators, disability office staff, students with disabilities, and industry professionals in STEM and related disciplines. Additional markets include related academic and professional organizations as well as those involved in professional development training and workshops

KEY FEATURES

- Offers a global perspective on making research or work spaces accessible for students with disabilities in the STEM fields
- Discusses best practices on accommodating and supporting students and demonstrates how these practices can be translated across disciplines
- Enhances faculty knowledge of inclusive teaching practices, adaptive equipment, accessibility features, and accommodations in science laboratories, which would enable the safe participation of students with disabilities
- Provides advice for students with disabilities on disclosure and mentoring

DESCRIPTION

Creating a Culture of Accessibility in the Sciences provides insights and advice on integrating students with disabilities into the STEM fields. Each chapter features research and best practices that are interwoven with experiential narratives.

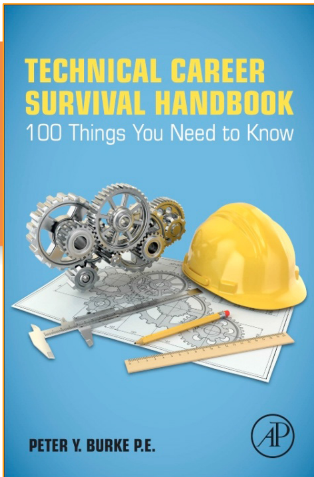
The book is reflective of the diversity of STEM disciplines (life and physical sciences, engineering, and mathematics), and is also reflective of cross-disability perspectives (physical, sensory, learning, mental health, chronic medical and developmental disabilities).

It is a useful resource for STEM faculty and university administrators working with students with disabilities, as well as STEM industry professionals interested in accommodating employees with disabilities.

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Technical Career Survival Handbook

100 Things You Need To Know

Peter Burke P.E, Consulting Engineer, Self-Employed

ISBN: 978-0-12-809372-6
PUB DATE: November 2016
FORMAT: Paperback
PAGES: c. 268
TRIM: 6w x 9h

AUDIENCE

Scientists, engineers, and technicians who apply the principles of science and mathematics to develop practical solutions to technical problems.

This practical guide provides the information needed to survive a technical career, enabling prospective candidates and those currently in technical careers to explore all technical education possibilities, industries, disciplines, and specialties

KEY FEATURES

- Offers insights on how to pursue and navigate a technical career
- Discusses job searches, interviews, offers, and counteroffers
- Includes day-to-day, in the trenches, job situations that may arise and best practices on how to address them

DESCRIPTION

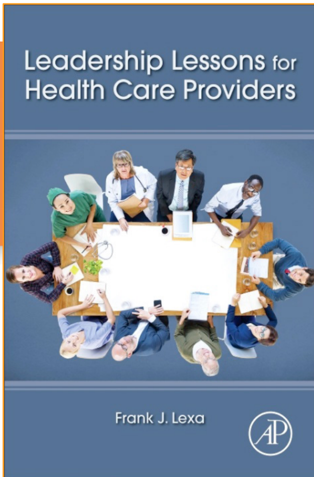
Technical Career Survival Handbook: 100 Things You Need To Know provides the information needed to survive a technical career, enabling prospective technical career candidates and those currently in technical careers to explore all technical education possibilities, industries, disciplines, and specialties.

This handbook better equips the reader to deal with the tough situations and decisions they have to make throughout their career. Topics include preparing for the workforce, employment challenges, and dealing with on the job situations. This book is a practical guidebook for scientists, engineers, and technicians who apply the principles of science and mathematics to develop practical solutions to technical problems.

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Leadership Lessons for Health Care Providers

Frank James Lexa Chair, ACR Commission on Practice Leadership and Chairman of the Board, Radiology Leadership Institute Project Faculty, Spain; East Asia Regional Manager, the Global Consulting Practicum & Adjunct Professor of Marketing, The Wharton School, Philadelphia, PA, USA

ISBN: 978-0-12-801866-8

PUB DATE: September 2016

FORMAT: Paperback

PAGES: c. 214

TRIM: 6w x 9h

AUDIENCE

Physicians and allied health professionals.Additional markets include related graduate and postgraduate programs, academic and professional organizations as well as those involved in professional development training and workshops

This thought-provoking book provides a solid introduction to the nature of medical leadership, addressing common situations that physicians and allied health professionals encounter and providing tactics for handling common leadership conundrums and increasing leadership abilities

KEY FEATURES

- Discusses and offers practical advice on a number of leadership development topics including levels of leadership, different styles and techniques, dealing with conflict, making hard decisions, and setting priorities
- Includes valuable insight from leaders and specialists in the health care field
- Directs readers to additional leadership resources as next steps

DESCRIPTION

The rapid changes in health care including novel technologies as well as the changing economic, political, and social landscapes are all forcing physicians as well as most types of health care practitioners to re-think their role in leadership. This is particularly true in the US in recent years, but the same issues are widely prevalent affecting health care workers around the globe. Developing capable medical leaders who can navigate these challenges will be essential.

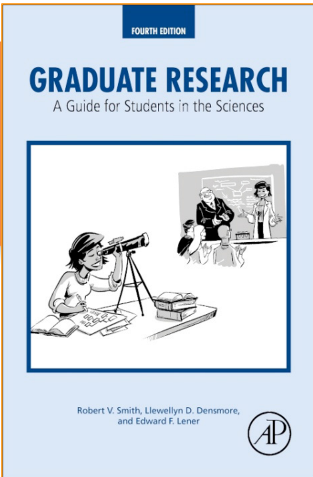
Physicians and other health care practitioners usually receive little or no leadership training in the course of their education. At the next steps in their training: internship, residency and fellowship, gaining clinical acumen takes precedence over developing other skills that are at the core of leadership training. *Leadership Lessons for Health Care Providers* will allow all types of health professionals to gain a better understanding of what leadership is, how to develop their skills while still early in their careers, how to understand and handle common leadership conundrums and chart a path towards increasing their leadership capabilities as they reach mid-career and beyond. This book will provide a great start for those who are interested in learning more about leadership and includes recommendations for next steps at all stages in leadership work.

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Graduate Research, 4e

A Guide for Students in the Sciences

Robert V. Smith Collaborative Brain Trust University Consulting (CBT UC), Sacramento, CA, USA
Llewellyn D. Densmore Department of Biological Sciences, Texas Tech University, Lubbock, TX, USA
Edward F. Lener University Libraries, Virginia Tech, Blacksburg, VA, USA

ISBN: 978-0-12-803749-2

PREVIOUS EDITION ISBN: 9780295977058

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 288

TRIM: 6w x 9h

AUDIENCE

Graduate student, graduate advisors, and mentors across the Sciences

This newly revised go-to resource is for graduate researchers at all stages of study and covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals

KEY FEATURES

- Discusses a broad range of topics including time management, library and literature work, and grant support
- Includes a new chapter on career planning and development with advice on careers in academia, government, and the private sector
- Contains chapters that promote the development of a varied set of communication skills
- Greatly expanded treatment of graduate study and research in international settings

DESCRIPTION

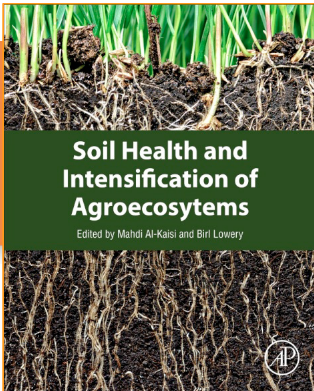
Graduate Research is an all-in-one resource for prospective and matriculated graduate students in the sciences. The newly revised edition includes updates to every chapter. *Graduate Research* covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals.

Graduate Research helps readers navigate the multidimensional and interdisciplinary world of scientific research and it is an invaluable resource for graduate researchers as well as those in advising or mentoring roles.

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Soil Health and Intensification of Agroecosytems

Edited by: ***Mahdi M. Al-Kaisi*** Professor of Soil Physics at Iowa State University, Ames, Iowa, USA

ISBN: 978-0-12-805317-1

PUB DATE: June 2017

FORMAT: Paperback

PAGES: c. 394

TRIM: 7.5w x 9.25h

AUDIENCE

Graduate and undergraduate students in the areas of agronomy, crop, soil and environment sciences. Also, this book will be an excellent resource for field agronomists, other practitioners, and crop consultants

Understanding and addressing the impact of agriculture on soil nutrients

KEY FEATURES

- Focuses on the intensification and integration of agroecosystem and soil resiliency by presenting suggested modifications of the current cropping system paradigm
- Examines climate, environment, and human effects on agroecosystems
- Explores in depth the wide range of intercalated soil and plant interactions as they influence soil sustainability and in particular soil quality

DESCRIPTION

Soil Health and Intensification of Agroecosytems examines the climate, environmental, and human effects on agroecosystems and how the existing paradigms must be revised in order to establish sustainable production. The increased demand for food and fuel exerts tremendous stress on all aspects of natural resources and the environment to satisfy such demand of an ever increasing world population, which include the use of agriculture products for energy and other uses in addition to human and animal food.

By exploring the introduction of sustainable agroecosystems that promote biodiversity, sustain soil health, and enhance food production can mitigate some of these adverse effects, *Soil Health and Intensification of Agroecosystems* presents options for ecological systems that mimic the natural diversity of the ecosystem can have significant effect as the world face a rapid changing and volatility climate. New agroecosystems will help define a resilient system that can potentially absorb some of the extreme shifts in climate.

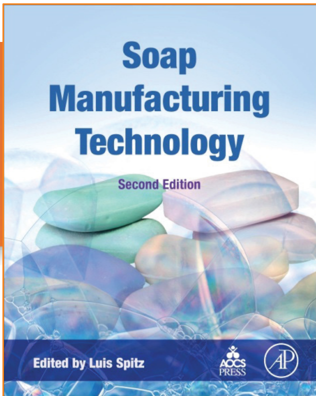
Changing the existing cropping system paradigm to utilize natural system attributes by promoting biodiversity within production agricultural systems, such as the integration of polycultures, will also enhance ecological resiliency and resources services and likely increase carbon sequestration.

LIFE SCIENCES

SOIL SCIENCE

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Soap Manufacturing Technology, 2e

Edited by: ***Luis Spitz*** L. Spitz Inc., Highland Park, IL, USA

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ISBN: 978-1-63067-065-8

PREVIOUS EDITION ISBN: 9781893997615

PUB DATE: October 2016

FORMAT: Hardback

PAGES: c. 308

TRIM: 7.5w x 9.25h

AUDIENCE

Soap producers, soap suppliers, home and personal care research and development, cosmetic chemists

The most authoritative and comprehensive title on soap manufacturing available today, including details on formulation, performance evaluation, integrated saponification and drying systems, cleansing systems, laundry bars, and more

KEY FEATURES

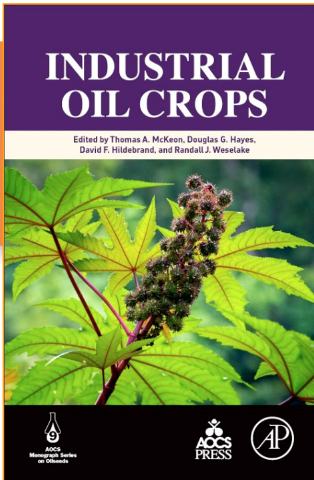
- Includes new chapters and figures, tables, and text updated from the first edition
- Serves as a technical reference book ideal for both experienced and beginning soap producers and suppliers
- Provides an overview of the AOCS methods used for the evaluation of soap and soap products
- Includes two new chapters on Integrated Saponification and Drying Systems and Laundry Bars

DESCRIPTION

Soap Manufacturing Technology, Second Edition, is the most authoritative and up-to-date book on soap technology available today. Editor and contributing author Luis Spitz leads a world-renowned team in providing comprehensive information on all components of soap manufacturing including formulation, performance evaluation, cleansing systems, and more. This new edition includes two new chapters, Integrated Saponification and Drying Systems and Laundry Bars, and the others are completely revised and updated.

CHEMISTRY

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Industrial Oil Crops

Edited by: ***Thomas McKeon*** United States Department of Agriculture, Agricultural Research Service, Western Regional Research Center, Albany, California, USA
Doulgas Hayes Department of Biosystems Engineering and Soil Science, University of Tennessee, Knoxville, TN, USA
David Hildebrand Professor of Plant Biochemistry and Genetics, Department of Plant and Soil Sciences, University of Kentucky, Lexington, KY, USA
Randall Weselake Professor, Agricultural Biotechnology, Department of Agricultural, Food & Nutritional Science, University of Alberta, Edmonton, Canada

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ISBN: 978-1-893997-98-1
PUB DATE: February 2016
FORMAT: Hardback
PAGES: c. 454
TRIM: 6w x 9h

AUDIENCE

Product developers, formulators, and analytical scientists in the fuels, biofuels, surfactants, paints and coatings, lubricants, polymers, and plastics industries

Explore the potential for using renewable sources for oil-based products

KEY FEATURES

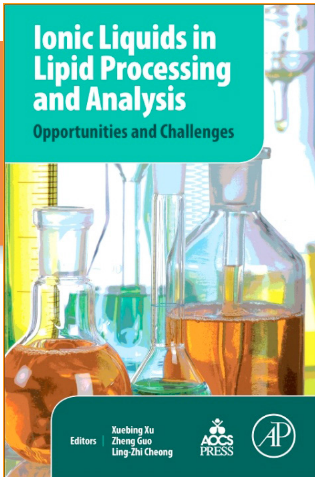
- Up-to-date review of all the key oilseed crops used primarily for industrial purposes
- Highlights the potential for providing renewable resources to replace petroleum derived products
- Comprehensive chapters on biodiesel and polymer chemistry of seed oil
- Includes chapters on economics of new oilseed crops, emerging oilseed crops, genetic modification and plant tissue culture technology for oilseed improvement

DESCRIPTION

Industrial Oil Crops presents the latest information on important products derived from seed and other plant oils, their quality, the potential environmental benefit, and the latest trends in industrial uses. This book provides a comprehensive view of key oil crops that provide products used for fuel, surfactants, paints and coatings, lubricants, high-value polymers, safe plasticizers and numerous other products, all of which compete effectively with petroleum-derived products for quality and cost. Specific products derived from oil crops are a principle concern, and other fundamental aspects of developing oil crops for industrial uses are also covered. These include improvement through traditional breeding, and molecular, tissue culture and genetic engineering contributions to breeding, as well as practical aspects of what is needed to bring a new or altered crop to market. As such, this book provides a handbook for developing products from renewable resources that can replace those currently derived from petroleum. Led by an international team of expert editors, this book will be a valuable asset for those in product research and development as well as basic plant research related to oil crops.

CHEMISTRY

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Ionic Liquids in Lipid Processing and Analysis

Opportunities and Challenges

Edited by: ***Xuebing Xu*** Wilmar Global Research and Development Center, Shanghai, China
Zheng Guo Department of Engineering, Aarhus University, Aarhus, Denmark
Ling-Zhi Cheong Wilmar Global Research and Development Center, Shanghai, China;
Department of Food Science, School of Marine Science, Ningbo University, China

ELSEVIER

ISBN: 978-1-63067-047-4

PUB DATE: February 2016

FORMAT: Hardback

PAGES: c. 468

TRIM: 6w x 9h

AUDIENCE

researchers in biotechnology, biocatalysis, industrial oil products, and green solvent use, chemists, chemical engineers

Stimulate interest in the tremendous opportunity and challenges from ionic liquids as a newly emerging technology for the lipids processing area

KEY FEATURES

- Reviews the state-of-the-art applications of ionic liquids in lipid processing and relevant areas from a variety of perspectives
- Summarizes the latest advances in the measurement of the physical and chemical properties of ionic liquids and available databases of thermodynamic property datapoints
- Presents the tremendous opportunities provided and challenges faced from ionic liquids as a newly emerging technology for lipids processing area

DESCRIPTION

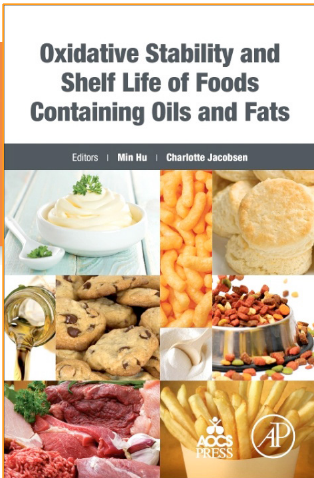
This book serves as a reference for those interested in state-of-the-art research on the science and technology of ionic liquids (ILs), particularly in relation to lipids processing and analysis. Topics include a review of the chemistry and physics of ILs as well as a quantitative understanding of structure-activity relationships at the molecular level. Further, chapter authors examine the molecular basis of the toxicity of ILs, the prediction of the properties of ILs, and the rationale and steps toward a priori design of ionic liquids for task-defined applications.

Emerging research in developing lipid-inspired ILs and their prospective use in drug formulation is described. Among the highlights are the latest advances in IL-mediated biocatalysis and biotransformation, along with lipase production, purification, and activation.

CHEMISTRY

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Oxidative Stability and Shelf Life of Foods Containing Oils and Fats

Edited by: ***Min Hu*** Senior Application Scientist, DuPont Nutrition & Health, New Century, KS, USA
Charlotte Jacobsen Professor, National Food Institute, Technical University of Denmark, Lyngby, Denmark

ELSEVIER

ISBN: 978-1-63067-056-6

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 528

TRIM: 6w x 9h

AUDIENCE

Members of the pet and food industries, students, researchers, and professors from universities and research institutes

Presents an evaluation of methods on the oxidative stability and shelf life of bulk oils/fats, fried oils and foods, food emulsions, dried foods, meat and meat products, and seafood

KEY FEATURES

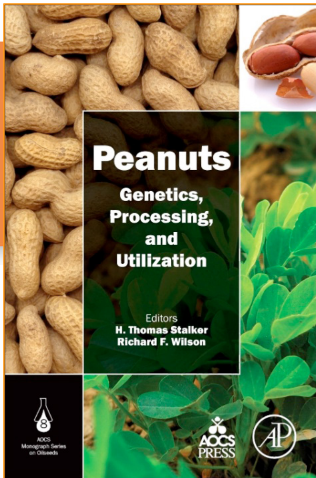
- Focuses on the application of various evaluation methods to studies of oxidative stability and shelf life in oils and fats and oils and fats-containing foods in the food and pet food industries
- Discusses oxidative stability and shelf life of low-moisture (dry) food, including dry pet food
- Discusses lipid co-oxidation with protein because a number of food products contain both lipids and proteins
- Directed mainly toward readers working in the food and pet food industries

DESCRIPTION

Oxidative Stability and Shelf Life of Foods Containing Oils and Fats focuses on food stability and shelf life, both important factors in the improvement and development of food products. This book, relevant for professionals in the food and pet food industries, presents an evaluation of methods for studies on the oxidative stability and shelf life of bulk oils/fats, fried oils and foods, food emulsions, dried foods, meat and meat products, and seafood in food and pet food.

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Peanuts

Genetics, Processing, and Utilization

Edited by: ***Thomas Stalker*** Crop Science Department, North Carolina State University, Raleigh, NC, USA
Richard Wilson The Peanut Foundation, Oilseed & Bioscience Consulting, Raleigh, NC, USA

ELSEVIER

A presentation of the latest innovations in crop productivity, processing, and food manufacturing technologies, with tactics to help ensure global food security and high quality peanut products and a focus on market environments driven by consumer perception, legislation, and governmental policy

ISBN: 978-1-63067-038-2

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 478

TRIM: 6w x 9h

AUDIENCE

Oilseed breeders, genetic engineers, biologists, scholars and postgraduate students

KEY FEATURES

- Discusses modern breeding methods and genetically diverse resources for the development of agronomic varieties in the U.S., China, India, and West Central Africa
- Provides enhanced crop protection and quality through the application of information and genetic tools derived from analysis of the peanut genome sequence
- Includes state-of-art processing and manufacture of safe, nutritious, and flavorful food products

DESCRIPTION

Peanuts: Genetics, Processing, and Utilization (Oilseed Monograph) presents innovations in crop productivity and processing technologies that help ensure global food security and high quality peanut products. The authors cover three central themes, modern breeding methods for development of agronomic varieties in the U.S., China, West Central Africa, and India, enhanced crop protection and quality through information from the peanut genome sequence, and state-of-the-art processing and manufacturing of products in market environments driven by consumer perception, legislation, and governmental policy.

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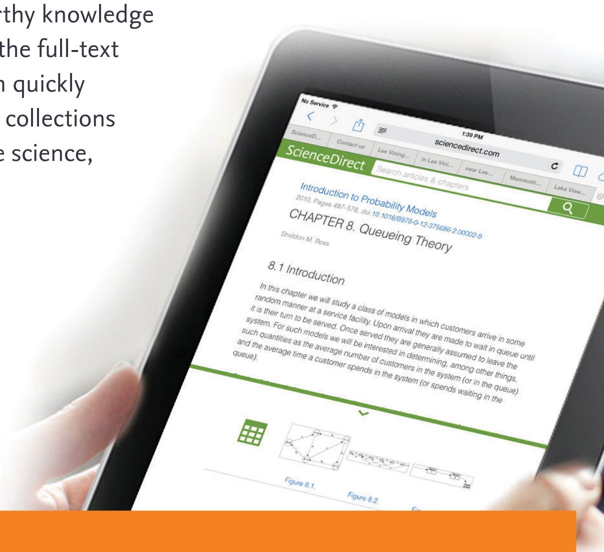
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